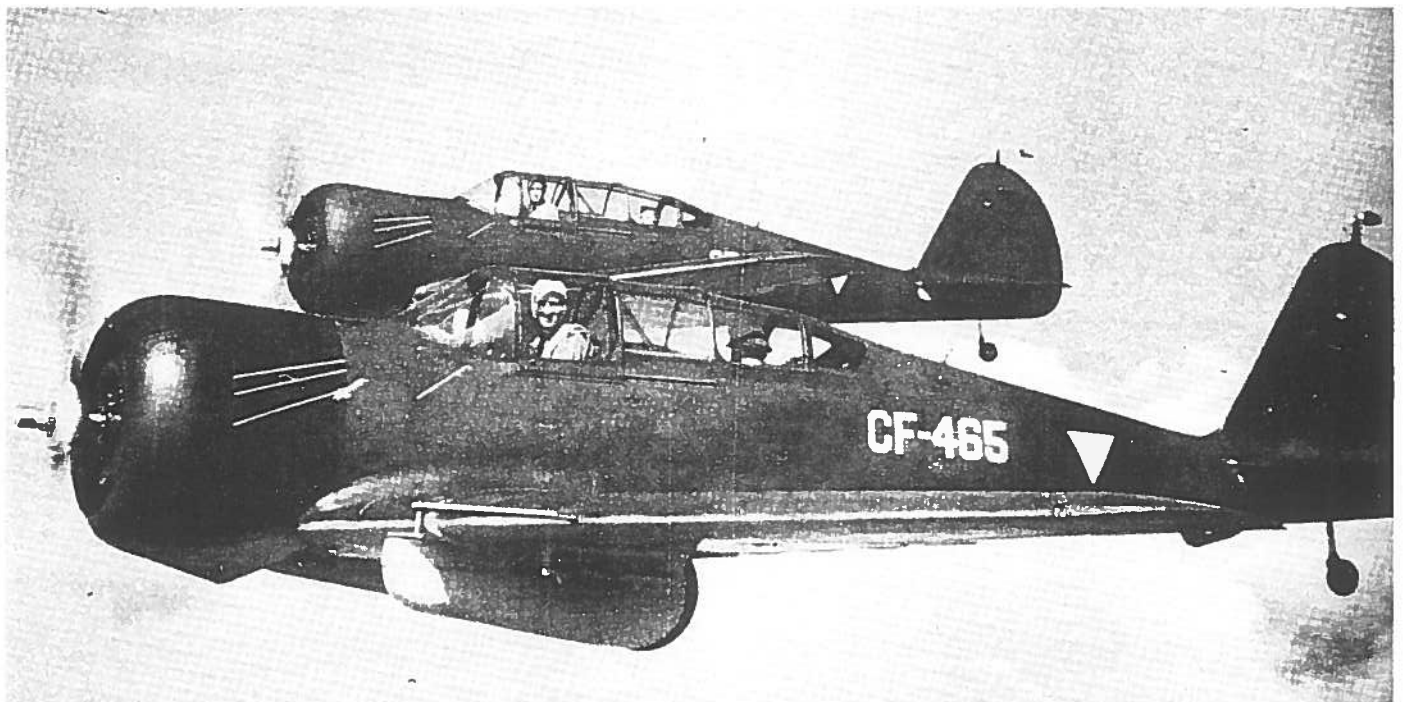


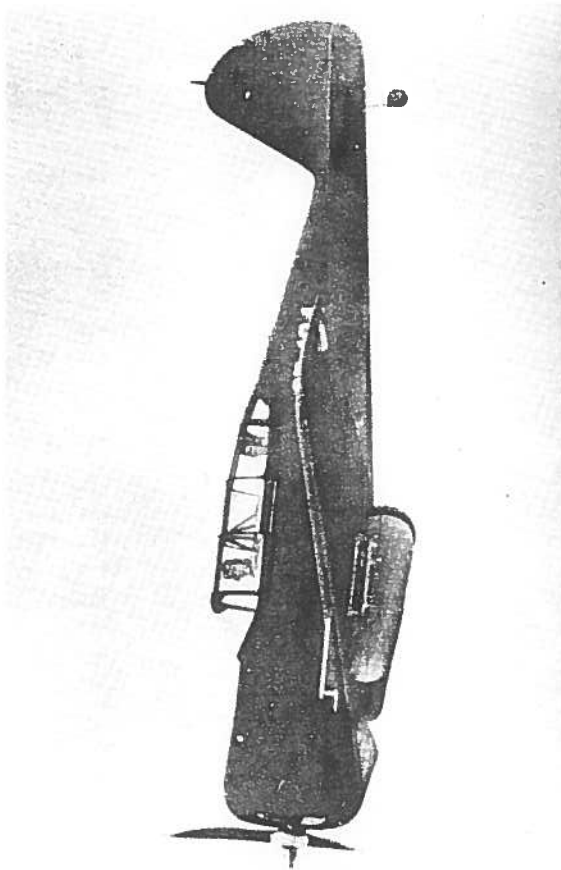
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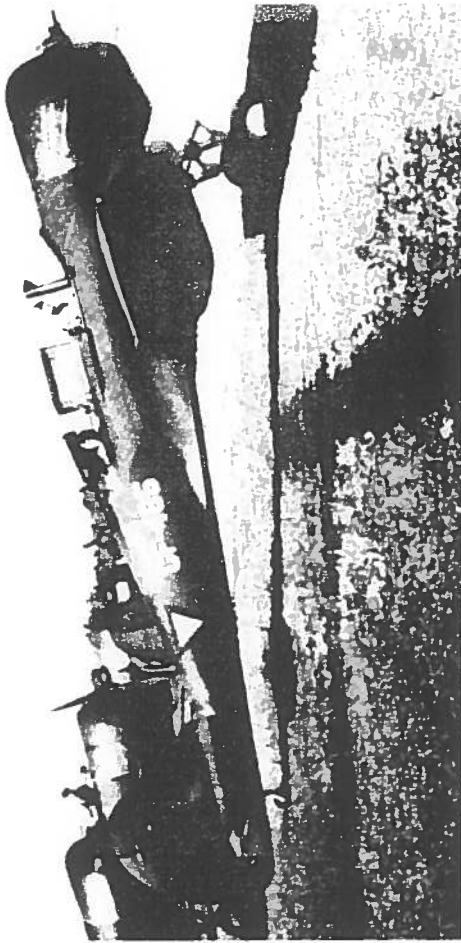


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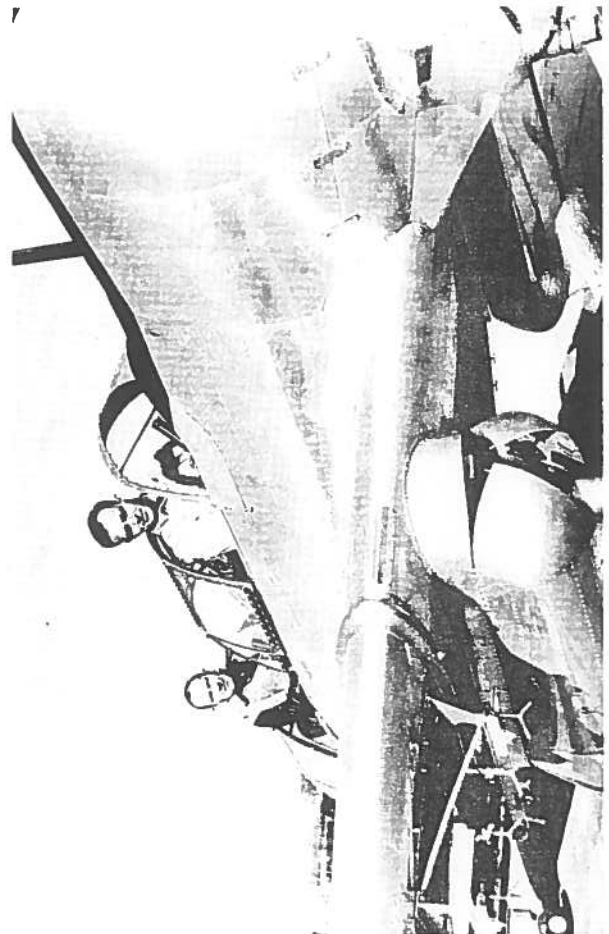
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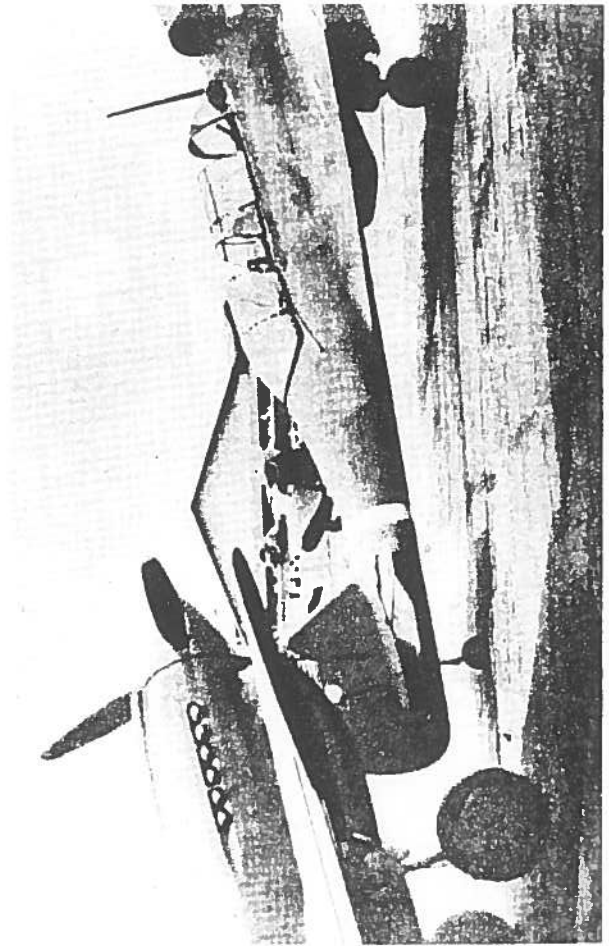
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# small air forces observer

the newsletter of the Small Air Forces Clearing House

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SAFO #30 January 1984

As the difficulties of obtaining US currency spread to other countries, more and more subscriptions to the SAFO are being obtained by means of barter. This means that more items are available from the SAFCH Sales Service, but it also means that your support is even more important than in the past.

A limited number (one, unless otherwise indicated) of the following are available from the editorial office. All prices are US \$ and include surface postage.

POLISH PROFILES (TBU): RWD-8 (4), Lublin R.XIII (3), TS-8 Bies, An-2 (3), Il-28, La-7, Mi-4 (4), MiG-3 (2), MiG-19 (12), Yak-9, Yak-11 (8), Il-14 (12), Po-2, MS-406 (9), Mosquito (7), Defiant, Beaufighter (5), Spitfire (37), Wellington (13), Mustang (13), P-39, and Pistolet 1935 Vis. \$3.00 each.

LA AVIACION LEGIONAIRIA, Emiliani, et al. \$10.00.

PLANY MODELARSKIE Potez 25: Three sheets of 1/16-scale drawings and color profiles (all Polish). \$6.00.

GODLO I BARWA W LOTNICTWIE POLSKIM 1918-1939, Kowalski (9). \$8.00.

POLSKI SAMOLOT I BRAVA, Krolakiewicz (5). \$12.00.

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PULKI LUDOWEGO LOTNICTWA POLSKIEGO 1943-1945, Krzeminski. \$6.00.

SAMOLOTY BOMBOWE I SZTURMOWE W LOTNICTWIE POLSKIM, Morgala. \$6.00.

NOWOCZESNY SAMOLOT WOJSKOWY, Krolakiewicz. \$6.00.

REGULARNE JEDNOSTKI WOJSKA POLSKIEGO (LOTNICTWO), Kolinski. (hardbound). \$8.00.

POLSKIE ESKADRY W WOJNIE OBRONNEJ 1939, Pawlak. \$6.00

SAMOLOTY RWD, Duleba & Glass. \$6.00.

THE RAND McNALLY ENCYCLOPEDIA OF MILITARY AIRCRAFT 1914-1980. Ed. by Enzo Angelucci. \$30.00.

MICRO: LWS Czaplă (1/72). \$5.00.

KP: Letov S-16 (1/72). \$6.00.

PM TURKEY: Spitfire Vb (1/72). \$4.00.

USSR: Il-18 (1/100). \$6.00.

SMER: Macchi MC.200 (1/50) \$5.00 complete; \$4 no box or instructions (decals included) \$4.00.

COVER COMMENTS: The story of the Curtiss Wright Falcon in the Netherlands East Indies is brought to us by the well-known aviation writer G.J. Casius. Our cover shows a couple of Falcons of 1-VLG VI. Note the "aim lines" on the cowl to be used for dive bombing. (F.J. Goth)

PHOTO CAPTIONS: (1) Newly delivered Falcon 'CF-464' still without national insignia. (Neth. War Documentation Institute via J.S.H. Visser). (2) Falcons of 4-VLG III. (3) 'CF4-109' during acceptance trials at St. Louis; 1st LT Maurenbrecher (Pilot) and 1st LT Bodemeyer (Technical Officer) of the Neth. Purchasing Committee. (4) Ex-NEIAF Falcon in Japanese markings at Andir, 1942. Note P-40E and Grumman G-21. (Via Salo). All photos from the author's collection.

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## AUSTRALIA

APMA (Australian Plastic Modeller's Association, PO Box 51, Strathfield, N.S.W. 2135)

2 83 (24 pages) "Rhodesia to Zimbabwe" 2 pages including a page of side-view drawings of Cessna 337G '3044', Islander '7213', Alouette II, and Hunter '1188'. "Scratch a Wackett" 4 pages including 2 pages of drawings ('A3-158', A3-9', & NEI 'B-319'); a cast resin kit is available from APMA. "10 Sqn Sunderland" 5 pages including 3 pages of drawings for Sunderland III 'W3999'. "Air Force Clothing" one page with drawing of Wirraway pilot, 4 Sqn, New Guinea, late 1943; this is the first of a series. "Local Single Seat Vampires" 6 pages including 12 side-view drawings (RAAF, RNZAF, & Indian Air Force) and 1/72-scale drawings for conversion of available kits to F.30 and FB 31 (with 'elephant-ears' intakes).

3 83 (32 pages including center-fold) "Sole Survivor" one page drawing of "only Hurricane operated by the RAAF in the Pacific theatre". "33 Sqn. Trimotor" one page drawing of Ford 5-AT-C Trimotor 'A45-1' in camouflage and RAAF markings. "Lockheed Twins in Service with the RAAF & RNZAF" 5 pages including 7 1/72-scale side-view drawings of Venturas and Lodestars. "MC-130E Special Operations Hercules" 13 pages including 2 pages of drawings of color schemes and 5 pages of 1/72-scale drawings. (Now you know why the center-fold.) "Chinese P-26 Fighters" 2 pages including drawings.

## AUSTRIA

OFH NACHRICHTEN (Oesterreichische Flugzug Historiker, Kannwegasse 1/15, A-1150, Wien)

3/83 (59 pages) "Banfield - Lebensweg des Hochstausgezeichneten K.U.K. Marinefliegers 1914-1918" The entire issue is devoted to the exploits of Gottfried von Banfield [5 pages of maps, 4 photos, and 7 pages of 1/72-scale drawings (Donnet Leveque 1912, Grossflugzeug G1 1915, Lohner L16 1915, Hansa Brandenburg CC 1916, Ceffag H 1916, & Hansa Brandenburg W.18 1917)]

PANORAMA (IPMS/AUSTRIA, Nordmannngasse 11-13/4/6, A-1210 Wien)

2 83 (36 pages) "Die Personlichen Markierungen der Osterreichisch-Ungarischen Fliegertruppen - 1. Teil" 18 large (half page) photos of Albatros D.III's.

3 83 (36 pages) "Die Constellation Story" 8 pages including 20 photos of civil machines. "Turo-Porter" 5 pages including 3-view drawing and 11 photos of Austrian aircraft.

## BELGIUM

KIT (IPMS Belgium, Te Couwelaarlei 103 bus 21, B-2100 Deurne; 4 issues for 450 Belgian francs)

#49 (38 pages) "Belgian Hunters Part 1: F.Mk4" 21 pages including 5 pages of text, a 3-pages list of individual aircraft histories, 11 photos, 6 pages of 1/72-scale drawings, and 3 pages of detail drawings.

## BRAZIL

EM ESCALA (IPMS-BRAZIL, Rua Arquias Cordeiro, 316 S/502, CEP 20770, Meier, RJ)

6 83 (24 pages) "DH Moth" 4 pages including types and numbers of Moths used in Brazil (15 Gipsy Moths used by Army and 24 Gipsy Moths, 17 Tiger Moths, & 5 Fox Moths used by Navy), their serial numbers, and their markings. 1/48-scale vacuform kits of the Beech C-43 'Mono', AT-26 Xavante, T-25 Universal, and T-27 Tucano are available from IPMS-BRAZIL for US\$ 5.00 (surface mail) each.

9 83 (20 pages) "Xavante" 6 pages including scale 3-views, camouflage scheme, cutaway drawing, and drawing of instrument panel.

## CANADA

HIGH FLIGHT (Box 393, Stittsville, Ontario K0A 3G0; 6 issues for CAN \$15)

Spring '83 (40 pages) "Chronology 1931" 4 pages including photos of Fairchild 71B, Ford Trimotor, Fleet 7, Puss Moth, Avro 621, Fairchild 52, & Bellanca Pacemaker. "Potato Air Force, Part II" 6 pages including photos of

Farman 222, Amiot 356 & 370, Potez 631, Potez 29, and Martin 167F. "Airman's Album 13" 4 pages of photos (Wapiti, Hurricane, Vancouver, Vedette, Shark, Fairchild 82, Hampden, Tiger Moth, Texan, Crane, Battle and Anson). "Distended Douglas, Part III" 11 pages including 17 photos, 1/72-scale 3-view drawings, and individual aircraft histories. "Spit Sweeps from Biggen, the Story of 1/401 Squadron RCAF, Part V" 5 pages including 12 photos. "Room with a View, A Bomb Aimer's War" 6 pages including 9 photos of Halifax.

RANDOM THOUGHTS (IPMS CANADA, Box 626, Stn. B, Ottawa, Ontario K1P 5R7; 6 issues for \$12.00 in US, \$13.00 others)

5 82 (24 pages) "Yak-23" 7 pages including 11 photos (Polish and Bulgarian aircraft), 6 side-view drawings (Czech 'IF-11', Polish '17' & 'SP-GLK', Bulgarian '41', Rumanian two-seater '17 D.C.'), scale 5-view drawings (reprint from L+K). "39M Czaba Armoured Car" not aircraft, but photos and drawings (1/35 and 1/76 scale) of a fascinating Hungarian WWII vehicle.

6 82 (24 pages) "AS 3 Mk 2 Super Turkey" 7 pages including 6 photos of Canadian Avengers, 2 photos of cockpit interiors, a 3-view drawing of the AS 3M2 prototype, and side-view drawings of the AS 3M and AS 3M2. "T-33: AETE Trails Aircraft" 2 pages including one photo and a sideview drawing of aircraft and 4 photos of details. "Kiwi T-33: An Old Bird" 2 pages including 3 photos of a colorful aircraft. "Advertisement" one page of side-view drawings of Vietnamese L-39 Albatros, Polish RWD-14 Czapla, Czech Letov S-16, and Belgian Avia B-21.

## ENGLAND

MAGAZINE (IPMS ENGLAND, Flat 4, 18 Delancey St., London NW1 7NH; 6 issues for US \$20.00 + \$1.00 joining fee)

3/83 (16 pages) Nothing of small air force interest.

4/83 (16 pages) "Uruguayan Aviacion Naval N.A. SNJ-6 1975-76" one page drawing of 'A-257'. "Up, Up and Away Update" one page of drawings of 5 ejection seats including seats for New Zealand A-4, Pakistani MiG 19, and Czech L 39 Albatros.

5/83 (12 pages) "MiG-21MF" 3 pages including review of forthcoming KP kit and definitive 1/72-scale drawings.

## FINLAND

MALLARI (IPMS FINLAND, PL 798, 00101 Helsinki 10; issues #41-44 US \$6.50, add \$1.00 for airmail and \$1.50 for personal bank cheque redemption)

#45 (8 pages) "Lockheed 18 Lodestar in Finland" 6 pages including 8 photos, sketches of details, and 3 pages of scale drawings (OH-VKU, -VKO, & -VKP). "FinnAF Permanent Orders (Part 6)" 5 photos and drawings of individual emblems.

## FRANCE

LA VITRINE DU MAQUETTISTE (IPMS FRANCE, 3 rue de l'Amiral Roussin 75015 Paris; 4 issues 60FF surface, 80FF air; back issues 12FF; "La Lettre de l'IPMS" 25FF.)

Nothing received since 1 83

## GERMANY

MITTEILUNGEN (IPMS GERMANY, Oertzenweg 12b, 1000 Berlin 37; DM 42.00 Europe, DM 49.00 USA, DM 55.00 Japan, DM 61.00 Australia)

9-83 (27 pages) Nothing of small air force interest.

10 83 (30 pages) Kit report on the 1/72-scale PZL P-37 Los from Poland [decals for PZL-37A, PZL-37B (Polish AF and Rumanian AF), & PZL-37A bis]; this kit should be available in 1984.

11/12 83 (40 pages) Nothing of small air force interest.

## ITALY

IL NOTIZIARIO (IPMS ITALY, CP 182, 41100 Modena Ferruvia)

2 83 (32 pages) "Fiat CR 32" 5 pages including 8 photos and 2 pages of drawings (2 Italian and one Chinese aircraft). "Insalata Russa" 15 pages including 8 photos

and 4 pages of drawings of Mig-21MF & MiG-23M. (While not aircraft, there is an excellent set of 1/35-scale drawings of the Italian M.11/39 tank. Also included are large side-view drawings and photos of Soviet BTR-40, ASU-85, PT-76, BRDM-1, BRDM-2, & ZSU-23-4 Shilka.)

JP-4 (CP 1550, 50100 Firenze; L 27.000 Europe, L 30.000 elsewhere)

6 83 (88 pages) Photos: Venezulean G.222 (color), Indonesia AF B.737 'AI-7302', SAAF Texans (full page color), & Singapore A-4S '651'. "Il Primo Passo per Diventare Aquile" 6 pages including color photos of P.166 and orange SF.260 in Italian AF markings. "Tutto sui Mirage" includes list of all countries that used the various delta-winged Mirage (Can you name all 21?), kit reviews, decal list, and color profile of RAAF Mirage IIIO(A) 'A3-60'.

7/8 83 (116 pages) Photos: Zaire MB.326 'FG-461' (color); Chile C.101 & PC-7 '210'; Dutch F-16A 'J-629'; and Argentine Learjet 35A 'VR-17' (color).

9 83 (88 pages) Photos: Greek RF-5A (color); Saudi AB.212 (color); Malaysia MB.339A (color); Egyptian DHC-5D; West German Lynx '83+02' (color); Canadian CF-104s - all red '104805' and black & white checks '104880' (color); and Belgian F-16A 'FA-58' (color). "Ansaldo AC.4" one page with photo and small 3-view drawing.

#### NEW ZEALAND

SCALE DIMENSIONS (IPMS-NEW ZEALAND, 43 Jillteresa Crescent, Bucklands Beach, Auckland; US\$ 10.00 surface or US\$ 15.00 airmail)

Nothing received since May 83

#### SINGAPORE

MODELLERS' MONTHLY (Plastic Modellers Society Singapore, 247 Macpherson Road, Singapore 1334)

Nothing received since 1-2 83.

#### SOUTH AFRICA

AFRICAN AIR REVIEW (AVIATION SOCIETY OF AFRICA, PO Box 1413, Alberton 1450; 6 issues for US \$12.00)

4/6 83 (20 pages) "Aircraft of the SAAF Museum - The Sikorsky S-51 serial A-1" one page of history. "SAAF Squadrons - No. 2 Squadron" short (1/2 page) history. "The Venda Defense Force has taken delivery of an Alouette III, serial VDF-001. The machine, a SA316B, has c/n 2363."

#### SPAIN

AIR SONIC (Balmes, 86 - Entlo. 2.a, Barcelona-8, ESPANA)

#12 (48 pages) "La Fuerza Aerea Argentina en la Guerra del Atlantico Sur" 12 pages including 20 photos [Cambera 'A-512', Hercules, Aero Commander 500 'T-131', Twin Otter 'T-83' & 'T-86', and Mirage IIIEA 'I-014' & 'I-002']. "Moron: Gallos, Tigres y Sisonas" 7 pages including 12 photos [F-5A 'A.9-046'; F-5B 'AE.9-018' & 'AE.9-01 (camouflaged); RF-5A 'AR.9-070' & 'AR.0-612' (camouflaged & color photo); Super Saetas 'A.10C-103'; Saetas 'A.10B-71', 'A.10B-38', & 'A.10B-67'; Do-27 'U.9-28'; and T-6 'C.6-23'], and 5 squadron badges in color. "Bajo el Signo de Antares" 3 pages including 5 photos of Italian helicopters [CH-47C 'E.I.808' (color), 'E.I.825', & 'E.I.801'; AB-206 'E.I.323'; and AB-204 'E.I.208']. "Bell UH-1H Iroquois" 2 pages including 8 photos showing details of Spanish 'ETo211'.

#14 (48 pages) "Perfiles para la Historia del Polikarpov I-16 en Espana" 6 pages including 13 photos. "Avia 82, el Poder Aereo Helvetic a Prueba" 7 pages including 15 color photos [Mirage IIIRS 'R-2111' & 'R-2104'; Vampire T-55 'U-1211'; F-5E 'J-3003', 'J-3063', 'J-3053', 'J-3008', 'J-3012', etc.; Hunter 'J-4152', 'J-4136', 'J-4021' etc.; Alouette III 'V-279'; and EKW C-3605 'C-529'. "Bhela I: Batallon de Helicopteros de Ataque" 6 pages including 13 photos of Spanish BO-105s (one in color). "Gatos Espanoles en Alemania" 4 pages including 4 photos of Spanish F-4C. "MD/BA Mirage IIIEE, C.11" 2 pages including 9 photos of details of Spanish Mirage 'C.11-23'.

#15 (48 pages) "Panorama Aereo Militar Argentino 1983" 6 pages including 10 photos [Mirage IIIEA 'I-007', Mirage VP, IAI Dagger 'C-421', A-4P 'C-225', F-86F 'C-120', Super Entendard '3-A-201']. "Tiger Meet 1983" 5 pages including 9 photos [West German Navy Tornado '43+82' (color); Belgian F-16A 'FA-58' (color); Canadian CF-104 '104706' tiger stripe (color), '104805' Red Indian Squadron special markings, & '104880' Silver Fox Squadron special markings; and Canadian T-33 '133345' '10,000 Hours' special markings.] "Exhibiciones Aereas 1983" 5 pages including 10 photos [Alouette III 'HD.16-5', Alouette II 'EC-DIQ', C-212 '403o15', Puma 'HT.19-4', RF-5A 'AR.9-059', P-3 Orion '221-22', Super Puma 'HD.21-3', and CH-47C 'HT.17-8']. "Neptune, los Ultimos de su Estirpe" 4 pages including 6 color photos of French aircraft ['334', '563', & '334'] and 5 squadron badges in color. "La Do 27 en el Ejercito del Aire" 6 pages including 5 color photos and 5 b&w photos. "Los Crusaders de la Marine Nationale" 3 pages including 5 photos of French Crusaders. "Perfiles Para la Historia del Polikarpov I-16 en Espana (II)" 11 pages including 8 pages of 1/72-scale drawings [Types 5, 6, 10, 10.17, & 18; I-16E (with enclosed cockpit); and UTI-4 Mod-5, 6, & 10.]

#16 (48 pages) "La Academia da Forca Aerea" 4 pages including 9 photos and 4 side-view drawings of aircraft the Brazilian Air Force Academy. "La Aviacion Argentina en la Guerra del Atlantico Sur (II)" 10 pages including 12 photos. "Adios al Texan" 8 pages including 10 color photos. "Tablada: Comienzo y Final del '109' - Primera Parte: La Guerra Civil" 7 pages including 12 photos. "Perfiles para la Historia del Polikarpov en Espana (III)" 7 pages with diagrams of tactics, etc. "Lockheed C-130 Hercules, T.10 y TK.10" 2 pages including 8 photos of details. Photos: Bo 105GHS 'ETo172'; King Air '65-C901/'EC-CDK'; CASA 207 Azor '351o02'; & Mirage IIIEE 'C.11-5'.

#### SWITZERLAND

VIRUS PLASTICUS (IPMS SWITZERLAND, Olivenstr. 2, 9320, Arborn; 4 issues for Sfr 24)

3/93 (38 pages) "Le Mirage (1)" 7 pages including 4 photos of Swiss Mirages.

4/84 (32 pages) "Le Mirage (2)" 7 pages including 3 photos (J-2301 and U-2002) and 2 side-view drawings of J-2304. "Spitfire aus der Türkei" Review of the PM model from Turkey and a full-page list of interesting aircraft being considered for possible future release along with a request for drawings and photos to help in their production. "Die Geschichte der Ju 86" 6 page history of the only Ju 86 to operate with Swissair including 6 photos. "Spanische Abziehbilder in der Masstaben 1/48 und 1/72" Review of new decals for modern Spanish aircraft. (Rep- limodel, Model Decals, Pje. Ayma, 8bis Barcelona 5, ESPANA).

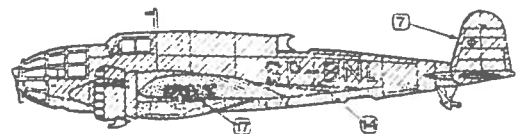
#### USA

WWI AERO (Leonard Opdycke, 15 Crescent Rd., Poughkeepsie, NY 12601; 5 issues \$15)

#96 (84 pages) "Aviatik-Berg D.I" 5 photos of restored aircraft. "Nieuport Hydro 1913" 4 pages including 7 very sharp photos and a scale 3-view drawing. "Nieuport Triplanes" 5 pages including 9 photos and 3 pages of scale drawings of 4 different types. "50 hp Gnome Omega #1" 15 pages describing the development of the first Gnome rotary engine and including 14 photos and numerous drawings. "Benoit Type XII" reprint of 10 pages of scale drawings from the National Air and Space Museum.

#97 (82 pages) "Henri Coanda" 6 pages including scale drawings of his 1910 "jet" aircraft, 15 photos of models of his aircraft in the Bucharest Technical Museum, and one photos of the Coanda Bn2. "Caproni-Pensuti Triplane" 3 photos.

(Continued on page 45.)



# FIGHTING FALCON - 1942 VINTAGE

## The Curtiss Wright CW-22 in the NEIAF

During the late 1930's the Air Corps of the Royal Netherlands East Indies Army (ML-KNIL) had undergone a relatively rapid expansion, concentrating on the twin-engined Martin 139 bomber as its main weapon to defend the vast Indonesian island-territory against foreign intruders. From 1937 onwards, the small air arm was converted from a tactical army-support organization to a bomber force, but in the course of this change, the fighter and tactical reconnaissance requirements were largely ignored. In 1937, one Afdeling (Squadron) had received Fokker C-X biplane army-cooperation aircraft, but this unit soon converted to Martin 139's and the Fokkers were used as advanced trainers or squadron hacks. Thus, only Martin bombers remained in first-line strength from 1939 on. The outbreak of war in Europe served as the background for a review of the air-defense requirements. On 20 November 1939, a new operational structure for the ML-KNIL was adopted which, amongst other things, established a Depot-Group including two Depot Afdelingen "with aircraft which should be suitable for flying and observer training as well as tactical reconnaissance". At that time, the ML-KNIL possessed the Dutch-built Koolhoven FK-51 biplane trainer which, with some stretching of reality, could be considered useful for this role. However, the shock of the blitzkrieg during which the Netherlands were overrun in May 1940, brought home the realization that more was needed. The Commander of the NEI Army formulated the immediate needs on 20 May 1940 and included a request for the purchase of aircraft to equip two reconnaissance squadrons of nine aeroplanes each with 100% reserve; a total requirement of 36 reconnaissance planes. Two days later, the Netherlands military attache in the USA; Rear Admiral Meyer Ranneft, presented a list of requests for military aircraft to the US government. This list included a request for 36 basic-combat trainers.

The request for basic-combat trainers rather than proper tactical aircraft was dictated by the limitations of the period. The outbreak of war had created a sudden strong demand for aircraft and the Netherlands, like many other nations, were too late to secure deliveries of modern aircraft. Since 1939, the Dutch had good contacts with the Curtiss Wright St. Louis Division, which still could supply the CW-22 trainer. This aircraft had enjoyed limited sales success and the Dutch now seized the opportunity to fill their requirement by requesting this armed trainer. Admiral Ranneft's request did not specify the Curtiss Wright CW-22, but undoubtedly the purchase had been discussed previously with the manufacturer.

### The Falcon's Protracted Birth

The Curtiss Wright Model 22 was a direct development of the CW-19 sports coupe of 1935, an all-metal, low-wing, sport two-seater, which had been designed in response to a program of the US Bureau of Air Commerce to promote development of touring/business aircraft of modern construction. The CW-19 enjoyed limited success, only 26 being built, but the basic features made it suitable as a military multipurpose aircraft and subsequent development centered on military use. The side-by-side cockpit was replaced by a tandem lay-out, resulting in a narrower fuselage with military-type glass-house cockpit canopy. This version, the A-19R, powered by a 420-hp Wright R-975-E3, appeared in January 1937 and was demonstrated in the Dominican Republic and Mexico, as well as to the USAAC and the Turkish Air Force. Some CW-19R's were actually exported to China and Central America.

In 1938 work began on an updated version, featuring a retractable undercarriage, a fixed machine gun in the nose and a flexible gun in the rear cockpit. This was designated CW-22 and widely marketed, but again sales were slow in coming. In 1939 an order for 50 from Turkey was received, but unspecified problems delayed the

confirmation of this contract. In fact, a NEI contract was the first firm success, soon followed by an order for 150 placed by the US Navy in November 1940 under the designation SNC-1.

Placing an order for the CW-22 for the ML-KNIL was not much of a problem, since the St. Louis plant was one of the few not yet overloaded with work. However, the real bottleneck was the acquisition of engines. Engine production of all types could not keep up with demand and the purchase of engines required separate approval of the US government. By early August 1940, an export license for the 36 aircraft had been obtained from the US Department of Commerce but the engines had as yet to be found. Including four spares, a total of only 40 Wright R-975-E3 powerplants were needed. Fortunately, the Dutch Navy still had 24 of these available from a previously-cleared purchase intended for Fokker T-VIIW floatplanes, production of which was interrupted by the war. Another 16 were obtained by Curtiss Wright St. Louis. On 4 September the purchase was cleared by the Council on National Defense (the body which now controlled exports), specifically stating that "the number of additional engines over those now available to the Government of the Dutch East Indies is small and although a shortage in this particular type engine may exist, I consider that this order will afford a useful opportunity to augment productive activity in force of the Curtiss St. Louis plant in a manner ultimately beneficial to the US Government Program, in view of the contemplated very large ultimate expansion of this plant". It was a matter of strict adherence to US policy: export customers enabled the build-up of the American war industry, in order to be ready for American participation in the war which the Roosevelt administration considered inevitable.

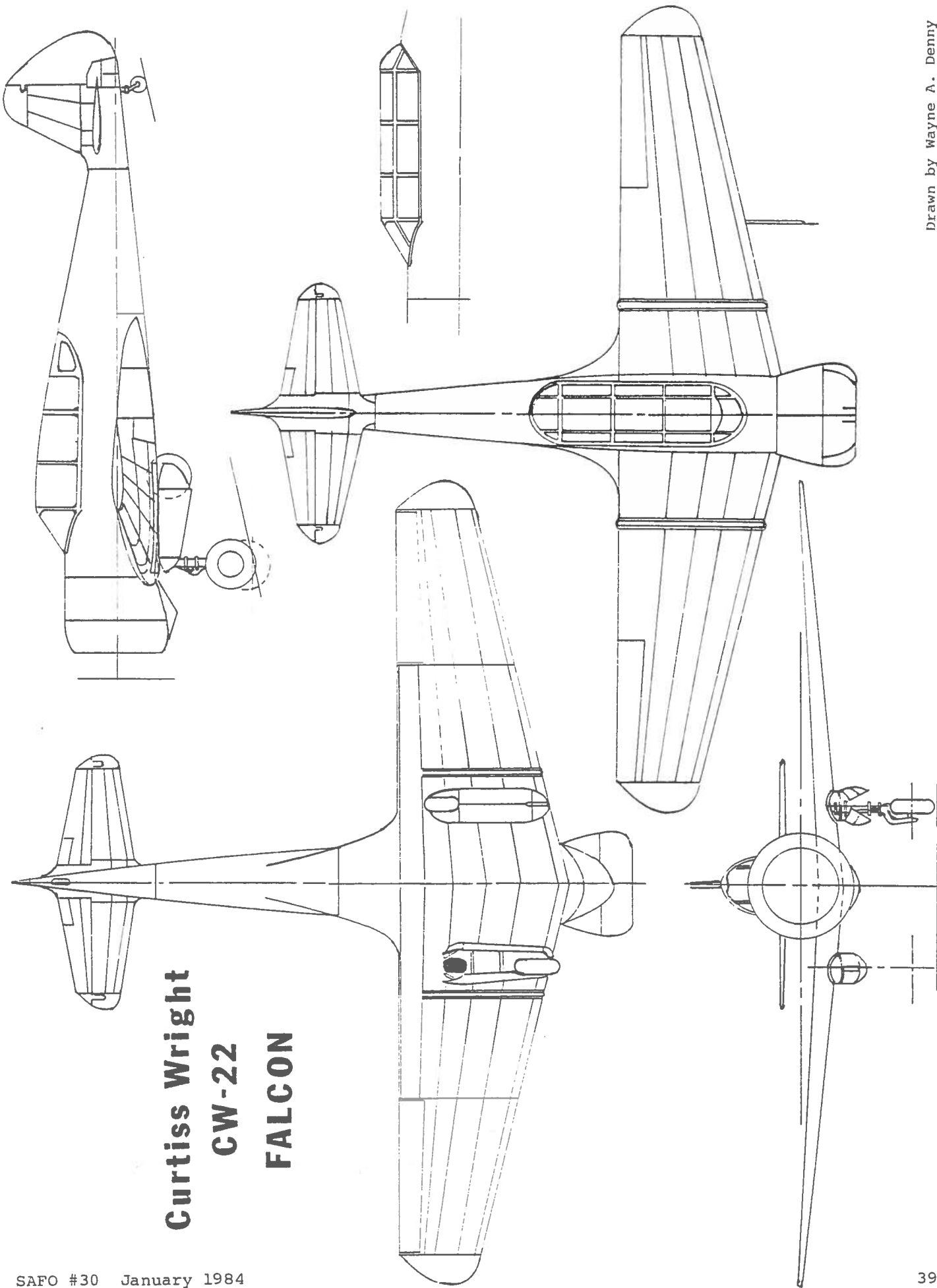
With all problems now out of the way, Contract No. NI-6139 was signed (obviously without engines) for a total amount of \$1,116,000, calling for deliveries in January 1941 (2), February (8), March (15), and April (11). Actual shipments from the USA took place in February (4), March (24), and April (8). The acceptance flights of the aircraft were made at St. Louis by Capt. Paul Valk, who returned to the NEI in April 1941 upon completion of the test flights. The CW-22 first made its public appearance in the Indies in May 1941, during a public display at Andir (Bandung).

Even before the CW-22's were delivered, the NEI Government started discussing a follow-up order. In a letter to the US authorities dated 18 January 1942, it spelled out future estimated requirements, which included amongst others, 25 Curtiss Falcons for delivery in 1942. Curtiss Wright followed this up with a request for clearance to start production of 100 CW-22 advanced trainers. No firm order for these existed, but apparently the work was needed to retain the St. Louis workforce and a note by the Council on National Defense listed prospective customers as Brazil (12), Columbia (6), Bolivia (6), Peru (12), Venezuela (6), Cuba (10), Turkey (36), Iran (2-5), and the Netherlands East Indies (25).

A formal Purchase Negotiation Request (Nr. N-644) was filed by the Netherlands Purchasing Commission on 25 April 1941. It was approved on 28 May, with the proviso that the order would be filled out of the 100 CW-22's mentioned above. The formal contract (Nr. NI-1-6540A) was approved on 11 June 1941, for a total of \$1,200,000 including engines. Deliveries were to take place in December 1941 (2) and January 1942 (23). The remainder of the batch of 100 were actually sold to Ecuador (5 delivered in January 1942), Peru (20 delivered between January/March 1942), Turkey (50 in January-March 1942).

The batch of 100 CW-22's were built as CW-22B's, largely similar to the US Navy SNC-1 version. The principal difference was to be found on the rear cockpit canopy, which was higher and rounded to provide more headroom for the instructor.





**Curtiss Wright**  
**CW-22**  
**FALCON**

Drawn by Wayne A. Denny

The arrival of the first CW-22 Falcons permitted the forming of the 1<sup>e</sup> Afdeling Verkenners, (1st Reconnaissance Squadron) on 1 June 1941. It was based at Tjililitan (Batavia) and administratively assigned to VLG III (Aircraft Group III), which was equipped with Martin 139 bombers. 1st Lt. J.W. Verhoeven became commanding officer and the unit was housed in the old hangar of KNILM (Royal Netherlands East Indies Airlines).

The attachment of the Falcon unit to an existing Group had the benefit of letting the new squadron draw on the facilities of the Martin group for maintenance and supply. This allowed Lt. Verhoeven to concentrate all his efforts on training the crews. Due to the close affiliation of the first Reconnaissance Squadron (1<sup>e</sup> Verk. Afd.) with VLG III, it soon became generally known as the 4<sup>e</sup> Afdeling of VLG III (4-VLG III).

A great amount of work was still to be done to make the Falcons suitable for their intended task. Armament had to be installed. This consisted of a 0.30" calibre synchronised machine gun in the nose and a flexible gun in the rear cockpit. Many problems were encountered with the radio installation, which consisted of a lightweight transceiver originally intended only for local use around the base. Its range proved to be limited to a distance of 50-60 miles (80-100 km) and it was very difficult to tune. The fixed-wire antenna was replaced with a trailing-wire aerial. Replacing aerial wires was a daily job because they wore through quickly on the tail fairlead.

The crews of the Falcon Afdeling consisted largely of newly graduated pilots and Army artillery officers; the latter had to be trained by the squadron as observers. Observer-training consisted of a course in radiotelegraphy, artillery observation, navigation, aerial gunnery, etc., lasting four months. To speed up this training, the squadron also used a few Fokker C-X biplanes, which had a much better NSF short-wave radio with several hundred miles of range. One of the C-X's, flown by Lt. Tander and Sgt. Borghouts, made an emergency landing on the beach at Wynkoops Bay around October 1941.

In August 1941, the 2<sup>e</sup> Afdeling Verkenners (2nd Reconnaissance Squadron) was established at Maguwo airfield near Jakarta, under command of 1st Lt. J.P. Welter. It actually formed at Andir (Bandung) where it picked up its aircraft and moved to Jakarta the next day and was officially inaugurated by the Sultan of Jakarta on 1 August. The 2<sup>e</sup> Afdeling was the nucleus of a new group (Vliegtuig Groep VI-VLG-VI) - which formed at the same time under command of Capt. Paul Valk, whom we have met earlier as CW-22 acceptance pilot in the USA. This group was to be equipped with Brewster 340 (Bermuda) dive bombers, which had been ordered in the USA but never reached the Netherlands Indies. When the war with Japan started, VLG VI received administrative control of the two Falcon squadrons, (1- and 2-VLG VI) as well as three other reconnaissance units formed from Flight-School personnel, namely 3-VLG VI (Koolhoven FK-51), 4-VLG VI (Lockheed 212), and 5-VLG VI (Koolhoven FK-51). The 2<sup>e</sup> Afdeling went through the same operational-training program as the 1<sup>e</sup> Afdeling, but observer training for both units remained at Tjililitan, while the unit at Jakarta carried out training for air gunners.

The sleek appearance of the Falcon and its similarity to the CW-21 fighter created the popular impression that the CW-22 was much more than a simple advanced trainer. This idea was reinforced by press reports which touted the great qualities of the Falcon and, needless to say, the ML Command did not contradict these stories. The sad experiences with aircraft like the Fairey Battle in 1940 were apparently not remembered. The Falcon was equipped with underwing bomb racks for ten small antipersonnel bombs or two 50-lb bombs. The latter armament was the more commonly used in the Netherlands East Indies and the Falcons practiced with these as a ground attack aircraft.

It was clearly a case of "too little, too late" as far as obtaining military aircraft was concerned and the same reasoning must also be responsible for the planned use of

the Falcon with mustard gas equipment. Trials were made with large aluminum tanks which were hung on the bomb racks of the CW-22. Ostensibly, these installations were intended for laying smoke screens, but in October 1941 some ground personnel was detached to Bandung for training in the loading and handling of lethal mustard gas. Exercises were carried out with Army ground troops to lay "smoke screens", but the ground crews wore rubber suits and gloves. Rumors amongst the personnel had it that at Tjililitan drums of mustard gas were marked with the innocent label "peppermint oil". [In this respect, it is interesting to note that in 1979 the Dutch government undertook the cleaning of a site at Java, where a combat-gas manufacturing plant had been established before WW-II and where 35,000 liters (8500 Imperial gallons) of mustard-gas liquid were still stored in an underground bunker. The manufacturing plant had been demolished and the entrance to the bunker had been sealed off with concrete before the Japanese invaded. In the war with Japan no combat gas had been used and only in the 1970's was it realized that the poison was still stored in Java.]

During the second half of 1941, the training program was continued with great enthusiasm. Dive bombing, air-to-air gunnery, and air-to-ground gunnery received great emphasis. Despite the lack of a proper bomb sight (only white lines on the engine cowl being available to aim the bombs), reasonably good results were obtained. On several occasions, the Falcons participated in air shows and parades. The 1<sup>e</sup> Afdeling made a tour with seven Falcons, giving demonstrations in Palembang, Pakan Baru, and Medan between 8 and 14 August 1941. On 31 August, the Queen's birthday, a Falcon of the 1<sup>e</sup> Afdeling led the air parade, carrying as a passenger the Chief of Staff of the ML-KNIL, Col. Kengen.

After the two reconnaissance squadrons had received their complement of 11 CW-22's each, the remainder of the Falcons was assigned to the Flight School at Kali Djati, where they formed an advanced fighter-pilot training unit under Lt. H.A.G. Oostindien.

Despite the light structure of the Falcon and its somewhat tricky landing characteristics, peacetime losses were surprisingly low. The CW-22 had a tendency to jump up and ground loop if landed in a full stall, 3-point attitude. Capt. Valk, the acceptance pilot, called it a "mean, quick-punishing aircraft" and said that he "was surprised never to have made accidents with it on the ground, in the USA and later in the Indies". Other pilots, mostly those who used a power-on, tail-high landing technique found the Falcon no worse than other machines of its kind. In service with the ML-KNIL, several landing gear failures resulted from ground loops, but the aeroplanes usually were repairable. One Falcon of the 1<sup>e</sup> Afdeling was lost while the pilot, Ensign Spaay, was performing low passes over the house of some relatives near Bogor; apparently his engine quit and the resultant crash in a rice paddy claimed the lives of the two crew. (The date is given in the Air Force Honor Roll as 24 December 1941; however, since other reports state that it happened while the squadron was still at Tjililitan, November 1941 is more likely.) Another accident caused the loss of a Falcon in a heavy landing right in front of the squadron's hangar at Tjililitan; the date was probably before 8 October.

#### Falcons at War

When on 8 December 1941 (7 December in the USA and Europe) the war with Japan broke out, the Falcon units were dispersed, but for the time being they were not yet placed at the disposal of the Division commanders, as was the ultimate plan. Instead, the two squadrons with Koolhoven FK-51's were assigned, because no hostilities were as yet expected in Java and the desire was to keep the Falcons in reserve. The FK-51's were thought to be equally well suited for liaison, camouflage control, and similar non-combat duties. The two Falcon units were put under control of the Army General HQ, for reconnaissance duties, liaison, etc. The training courses for observers continued, while the 2nd Squadron started an air-gunner conversion course for some ten experienced machine gunners assigned from the regular Army in January 1942.



Shortly after the outbreak of war, the Martins of VLG-III departed for Singapore, as reinforcement for the RAF in Malaya. The Falcon unit at Tjililitan, now officially designated 1<sup>e</sup> Afdeling of Group VI (1-VLG VI) was moved to Tjikembar, a small airfield west of Sukabumi. Tjikembar was an old emergency landing ground, measuring 400 by 190 m (1300 by 600 ft); very muddy and without any facilities. The personnel, housed in a village school building and some private houses, spent the next few weeks hauling up stores from Tjililitan and building dispersal pens. The first take-offs and landings at Tjikembar produced numerous narrow escapes, with Falcons skidding all over the field due to the slick surface. Drainage trenches were dug along the runway and a large number of Indonesians was employed to make bamboo matting which was laid out as a runway surface. A mobile radio station was obtained in the form of a lorrie in which the radio installation of a Martin bomber had been mounted. The ground equipment was completed with a fuel bowser and a caterpillar tractor which was kept busy all day long pulling Falcons out of the mud and towing them to dispersal.

The duties of the Afdeling consisted mainly of anti-submarine reconnaissance flights along the south-west coast of Java. At the same time, the training of ground crew as air gunners continued. On 16 January, a Falcon flown by Sgt. Sotebeer with a student gunner, Private Kern, crashed near Sukabumi; both were killed.

Around the end of January 1941, the Japanese began regular reconnaissance flights over west Java; heavy air raids on the airfields started on 3 February. Despite the fact that the location of Tjikembar was known to the Japanese, the field was never attacked. This was mostly due to the lucky circumstance that a heavy cloud-cover usually obscured the valley in which the base was located. Even without this, the airfield was difficult to locate in its rice-paddy surroundings. All flying was halted immediately when the Japanese reconnaissance plane was seen or heard over the field, but otherwise the daily routine was hardly exciting. After duty hours, the personnel usually gathered around the mobile radio station (which now had been replaced by a more sophisticated Lorenz transceiver) and listened to the war reports which made it clear that things were not going well in other theatres.

The turn for the worse was demonstrated clearly by the arrival of three ancient Vickers Vildebeestes at Tjikembar around the 12th of February. These aircraft belonged to No. 36 Sqn. RAF and had been evacuated from Singapore. The RAF pilots had done their share over Malaya and had little ambition for more warfare with these obsolete machines. They passed the day mostly by drinking beer in the local Chinese store. Their arrival brought home the reality of impending defeat. The stories of omni-present Japanese fighters were hardly encouraging. The Falcons increased their patrol activity along the Java coast. Every morning very early, the aircraft individually took off to reconnoiter a section of the north coast where Japanese landings were now expected. Japanese fighters were sometimes seen but could usually be avoided by flying back to base at very low altitude. On one occasion, a Sergeant pilot was chased through the valleys by a Japanese fighter and was finally forced to crash-land close to Bandung.

#### 2-VLG VI in East Java

The 2nd Reconnaissance Squadron (2-VLG VI) at Maguwo airfield spent a large part of its effort in December 1941 training a group of air gunners. Each student flew at least once a day, practicing with camera guns or live 0.30" machine guns at targets towed by Koolhoven FK-51's or ground targets placed on a beach on the south coast of Java. Around New Year 1941, some graduates were transferred to Andir for placement with a Martin bomber unit or assignment to the FK-51 and Lockheed 212 units. Some stayed with 2-VLG VI.

Shortly before 8 December, Lt. J.P. Welter was transferred to the Transport Squadron to fly Lodestars, and command was assumed by the CO of Group VI, Capt. Valk.

Besides the training assignment, the Falcons also flew reconnaissance missions from Maguwo along Java's south coast, as far west as Tjilatjap.

Early in January 1942, one flight of three Falcons under 2nd Lt. Mossou was placed at Wirasaba airfield, near Banjumas in central Java, to carry out coastal reconnaissance over the Indian Ocean. (This move was probably made to free Lockheed 212's which were then assigned to fly reconnaissance over the convoys underway to Singapore through the Sunda Strait.) The crews, completely untrained for these maritime duties, knew nothing of ship recognition. On one occasion, Lt. Lacueille attacked a ship south of Jogjakarta; when photos of the attack were developed, the target was identified as an American troopship (possibly the US Mount Vernon which passed through the area on 8-9 January). Another time, Lt. van Aarem nearly fired at a floatplane which did not reply to the recognition signal. When the floatplane landed near friendly warships west of Tjilatjap it became obvious that it was "one of ours".

Heavy bombardment of the airfields on Java started early in February, but the Maguwo airfield escaped Japanese attention until the 22nd. (A pre-war Japanese intelligence map does not show Maguwo airfield.) On this day, a strafing attack severely damaged four Falcons and a USAAF B-17. Luckily, most of the Japanese effort was expended on dummy airplanes, made of bamboo and fabric; these were literally shot to shreds. On 24 and 25 February, the two Koolhoven FK-51 reconnaissance units were disbanded. In their place, the Falcon unit were now put at the disposal of the Division Commanders on the NEI Army.

A major relocation of the NEI Army in Java followed the disbandment of the Unified ABDA (American-British-Dutch-Australian) Command on 22 February. Until that time, Java had been divided into three military regions: Bandung in the west, Magelang in the center, and Surabaya in the east. When it was decided, on 23 February, to concentrate the main defenses at Bandung, II Division was moved west and its HQ at Magelang was disbanded. The 2nd Squadron (2-VLG VI) was then assigned to the IIIrd Division in east Java and sent to Bangsal airfield near Modjoberito 50 km (30 miles) from the Surabaya Naval Base. Although now under the direct tactical command of III Army Division, the Falcons were again largely employed for coastal reconnaissance which allowed the Dutch Navy to free long-range reconnaissance flyingboats for other duties. Among the missions carried out was a reconnaissance of the island of Bali which had been occupied by the Japanese on 19 February and was a base for the Zero fighters of the 3rd Air Group.

#### The Japanese Landings

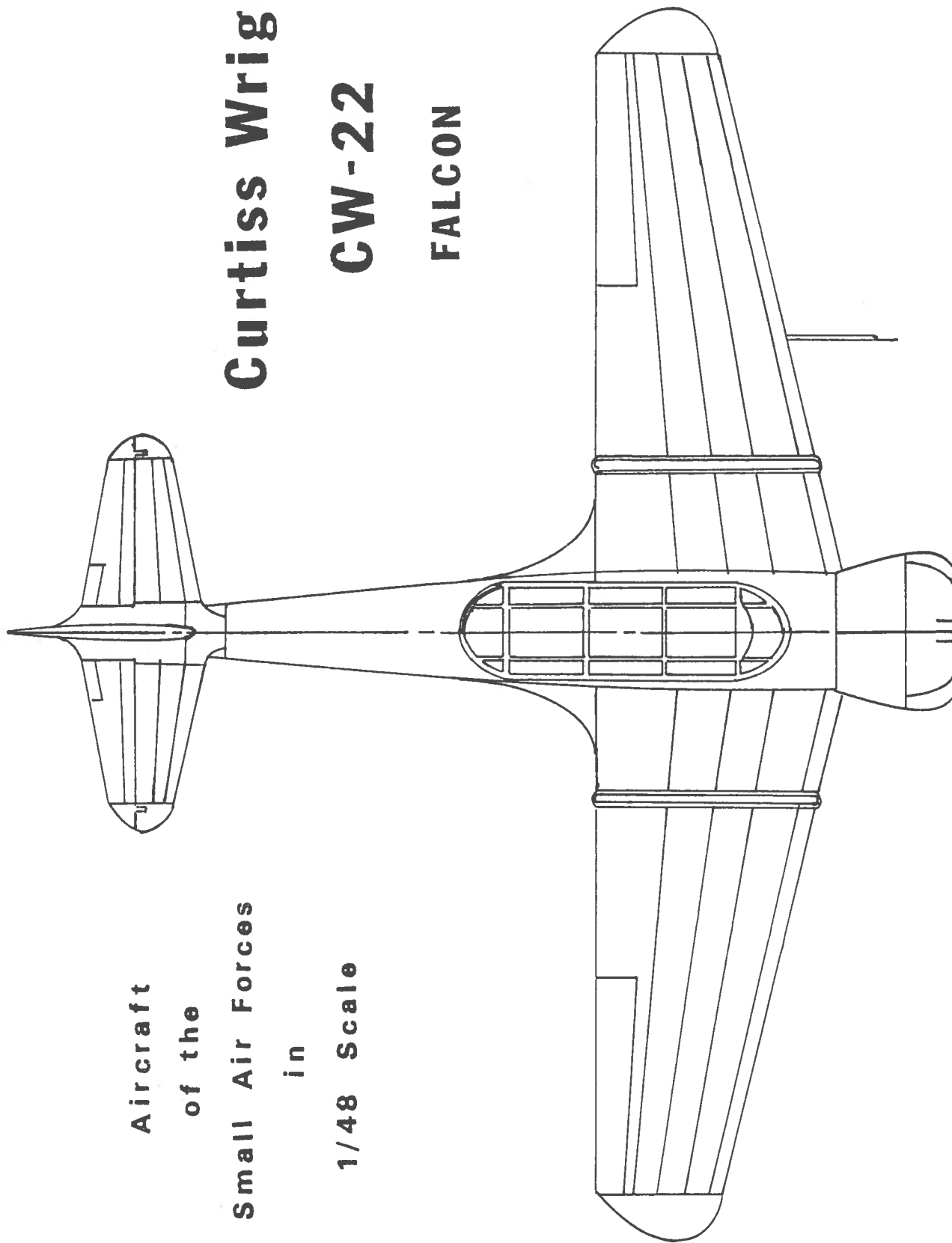
On the 27th of February, the Japanese destroyed the Allied fleet in the Battle of Java Sea and thus cleared the last obstacle before their invasion of Java. During the night of 28 February/1 March, they landed at four points on Java's north coast: at Merak and Bantam Bay west of Batavia; at Eretanwetan east of Batavia; and at Kragan in east Java. In both west and east Java, the Falcons became actively involved in combat with the enemy. We will look at east Java first.

At 0530 hours on 1 March, nine American P-40E's accompanied by six Dutch Hurricanes and four Brewster Buffaloes strafed Japanese landing barges shuttling troops from the landing fleet to the beaches at Kragan. This attack did not impede the progress of the landings. The Japanese had already moved anti-aircraft guns ashore and heavy fire was received from these and the ships' batteries. This was the scene to which the Falcons of 2-VLG VI were sent two hours later. Four aircraft were ordered on a reconnaissance of the landing zone, starting from Bantjar, with two going westward and two eastward along the coast.

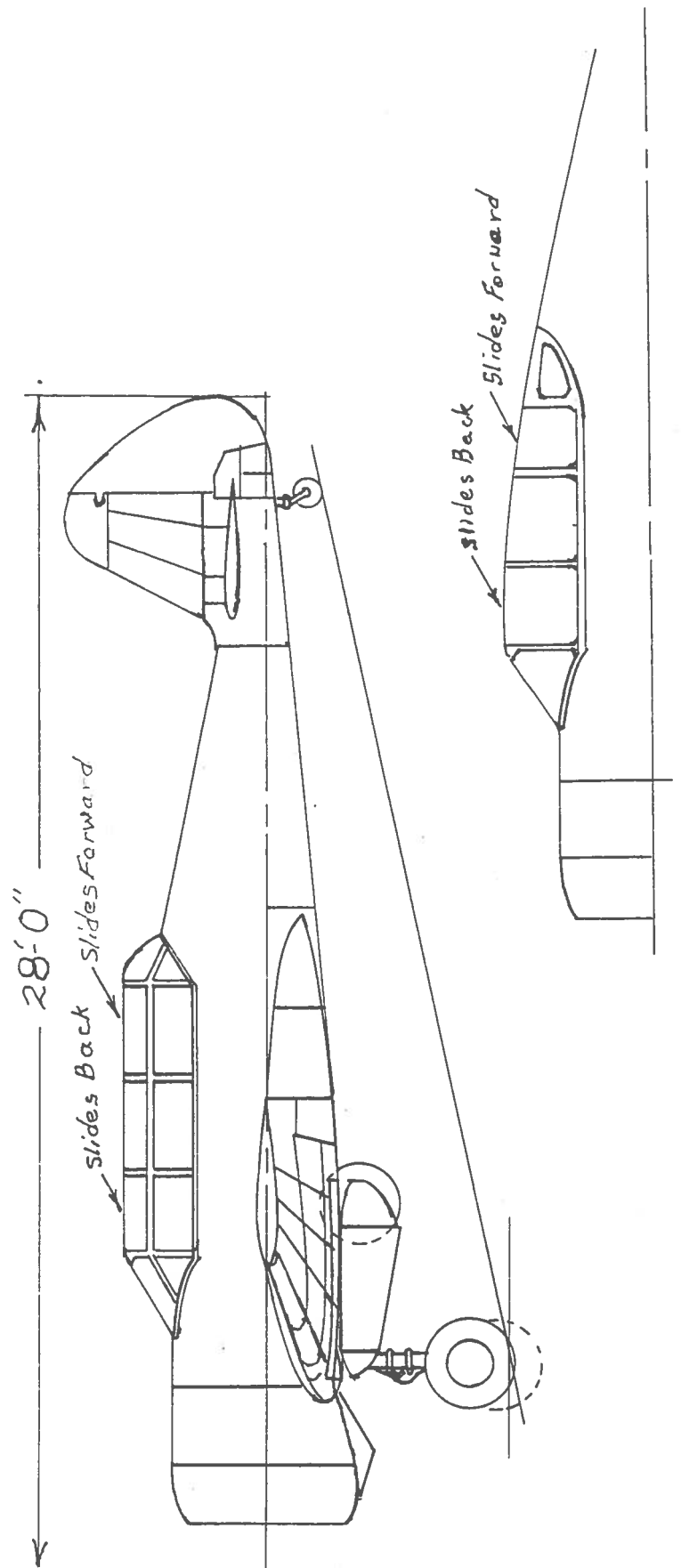
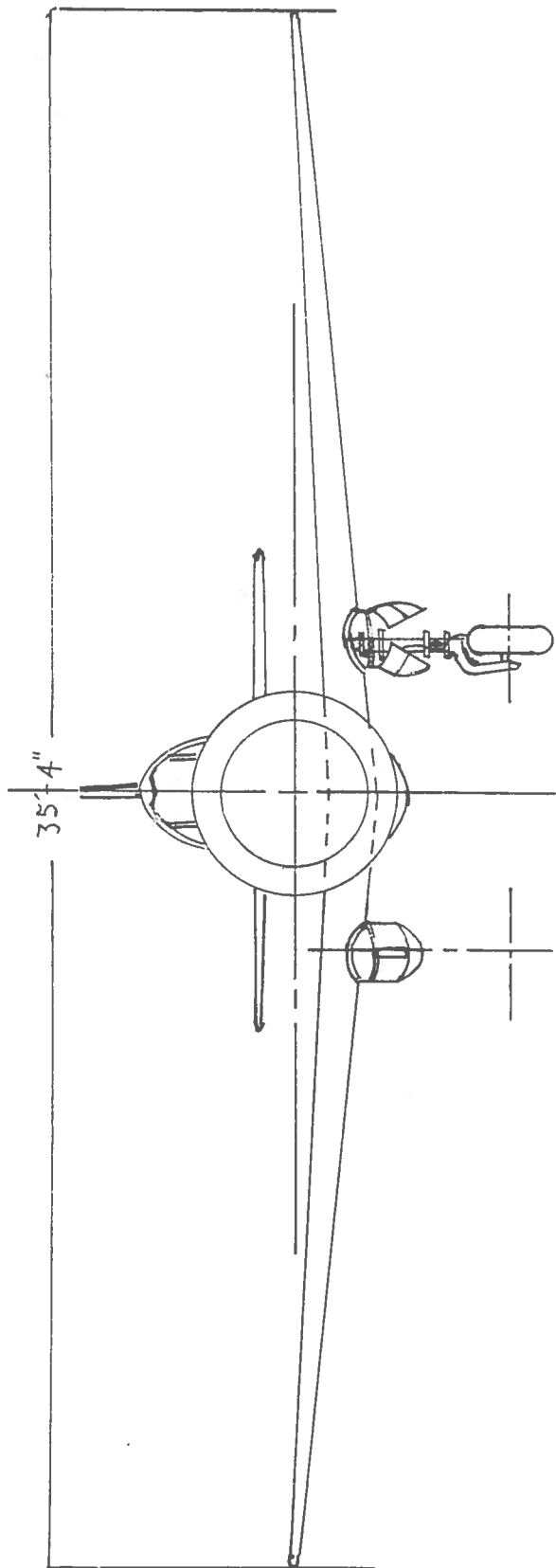
The following details were taken from Lt. Theunissen's report: At 0730 hours two CW-22's (manned by Sgt-pilot Verboog with 1st Lt. Theunissen as observer; and Ensign-pilot Beckering with Ens. Pilgram as observer), took off for the landing zone with the following orders: Reconnaissance of (1) the coast at Bantjar, and west to Tand-

**Aircraft  
of the  
Small Air Forces  
in  
1/48 Scale**

# **Curtiss Wright CW-22 FALCON**



Drawn by Wayne A. Denny



jung; (2) enemy drive inland; (3) the demolition of oil installations at Blora-Tjepu; and further to bomb suitable targets with the two 50-kg (110-lb) bombs carried by each plane. Via Blora-Tjepu, where great fires were seen, the two Falcons reached the landing zone, flying very low. The roads inland were still clear of enemy. At sea some 60-70 transports were observed stretching for many miles in two rows, protected by 20-30 warships. At 6000 m (20,000 ft) nine Japanese fighters were seen. The anti-aircraft guns ashore were not very active at this time, but the barges each carried a machine gun. The Falcons continued towards the west from Kragan and were then attacked by six biplanes on floats. The Dutch planes were driven apart but fired back frantically at the Japanese.

After emptying one magazine, Lt. Theunissen received a grazing shot at his head and was momentarily knocked out. The pilot, Sgt. Verboog, shot at the Japanese planes with his front gun, but the lack of tracer ammunition made aiming very difficult. Lt. Theunissen regained consciousness, but was then hit by a tracer bullet in his pelvic area putting him out of action. The Falcon was by now heavily damaged and Sgt. Verboog had to make a crash landing in the sea. The aircraft started to sink immediately and Lt. Theunissen, who was paralyzed, could not get out of his seat. He told Sgt. Verboog to save himself, but the Sargeant dragged Theunissen out of the cockpit and started to tow him towards the beach 200 m (700 ft) away. While swimming, the two were machine-gunned twice by the Japanese fighters. At 0900 hours they came ashore near Lasem west of the landing zone. Sgt. Verboog left Theunissen on the beach and went for help returning at 1030 hours in an automobile with an Indonesian doctor. After receiving first aid, Theunissen and Verboog went by car to Magelang arriving at 1700 hours. Lt. Theunissen underwent a successful operation.

In the meantime, the other Falcon was also being pursued by three floatplanes. The crew managed to evade the first attacks, but then received hits in the wing and oil tank. In the distance they saw Lt. Theunissen and Sgt. Verboog crash into the sea. Ensign Beckering, hit in the lower body, could no longer fly the airplane. While the Falcon flew on without anyone at the controls, Ensign Pilgram continued to fire although suffering wounds in the forehead, shoulder, knee, and shin. When Pilgram was hit in the wrist, he could no longer fire his gun; with a last desperate effort Beckering managed to put the Falcon down on an open stretch of sand near Pamotan village. The aircraft hit so hard that the engine was ripped off and came to a stop 30 m (90 ft) away. Despite his injuries, Pilgram managed to get Beckering free from the wreckage. The Wedana (village chief) of Pamotan was very helpful and hid both officers, even when the Japanese entered the village. The same Indonesian doctor who had tended to Lt. Theunissen was summoned to give first aid. However, Ensign Beckering died on 3 March and he was buried, dressed in the Wedana's uniform, with all the ceremony the simple villagers could muster. On 5 March, the Japanese finally found Pilgram and took him to Kragan where he was imprisoned without medical care for his wounds. Only on 3 April, in Surabaya, did he finally receive treatment from a doctor.

The two Falcons sent on the eastward reconnaissance fared little better. One aircraft, flown by Lt. Manus van der Jagt with Lt. Boelhouwer as observer, was shot down near Tuban; both crew were killed. The other aircraft (pilot Lt. van Es and observer Lt. Van Alphen de Veer) managed to get back to Bangsal unharmed. The squadron was now reduced to four Falcons.

Further use of the Falcons seemed suicidal. As no major resistance by the Army was planned in east Java, the Falcons could not be used in their original role for artillery observation and liaison. They were, therefore, withdrawn to Andir (Bandung).

#### The Falcons in West Java

In west Java, the 1st Squadron (1-VLG VI) was assigned to the Army divisions defending the Bandung area. One patrouille (flight) of three Falcons was moved to Andir

(Bandung) for reconnaissance duties on behalf of the Bandung Army Group under Gen. Pesman; the remainder stayed at Tjikembar under the orders of the C.G. of the West Army Group (mainly the 1st Division), commanded by Gen. Schilling.

Lt. Verhoeven, the CO of 1-VLG VI, had a dim view of the chance of his Falcons against the supremacy of the Japanese air forces. Therefore, he decided that his Afdeling, as much as possible, would operate at night or very early in the morning when Japanese fighters were likely to be less active. This tactic worked well. From the moment of the landings, the Falcons in west Java flew single plane sorties, without any losses. Lt. Van Hessen carried out several flights on 2, 3, and 4 March.

On 2 March, Lt. Van Hessen, with Lt. Eman as observer, made a daylight sortie to the Sunda Strait and back along the main road from Serang to Batavia. Near Serang he saw a military column. It was difficult to identify the troops, but they could hardly be friendly because the Dutch had already abandoned the area. Van Hessen strafed the troops with success, although on the second run the Falcon was hit and Lt. Eman was wounded in the leg. On the return flight, the observer was dropped off at Tjililitan (Batavia) for medical treatment, while Van Hessen reported his observations to the 1st Division HQ in Batavia. (Later, while he was in a Japanese POW camp, Van Hessen met survivors of the cruiser USS Houston which had been sunk off the coast on 1 March. They told him that they had suffered casualties in an attack while being marched off by the Japanese. Comparing time and location, this turned out to have been Van Hessen's attack!)

All following sorties were carried out at night, but since only two of the pilots had night flying experience, one of whom was absent in Batavia, the burden of the effort fell on Van Hessen. The following night (2-3 March) he took off again from Tjililitan and relocated the enemy troops which had now advanced considerably. No bombs or ammunition were carried on this sortie as Tjililitan airfield was about to be demolished and no ordnance was available. During the night of 3-4 March, Van Essen again went out, this time with Lt. Cramer as observer and dropped six bombs on ships which were anchored in Bantam Bay with full lights on. Explosions were seen in the darkness, but the small bombs could have hardly caused serious damage to the ships. One more attack was made by Lt. Van Hessen, again at night (4-5 March). This time he bombed three large barns at a rice mill between Serang and Batavia which was used as a storage depot by the Japanese.

In connection with the withdrawal of the Army to the Bandung highlands, the Tjikenbar base had to be evacuated on 5 March. The seven remaining Falcons of 1-VLG VI were withdrawn to the airfield at Tasik Malaja, east of Bandung. Likewise, the remnants of 2-VLG VI, by now at Bandung (Andir), were directed to the same field. The ground echelon of the Tjikembar squadron took considerable time to reach Tasik Malaja because of the already chaotic conditions on the roads. Most of the ground crews of 2-VLG VI had not even reached western Java because of the rapid progress of the Japanese. There had been brief consideration to re-equip both reconnaissance squadrons with new Falcons, but to quote one of the observers of 2-VLG VI, Lt. Van Aarem, this "luckily could not be carried out".

After the withdrawal to Tasik Malaja, a considerable number of Falcons was still available. Seven Falcons of 1-VLG VI remained, as well as four of 2-VLG VI. There were also approximately 12 Falcons of the Flight School at Kali Djati, which, along with most other serviceable training aircraft, had been moved to Tasik Malaja in February. Finally, the first four of the second purchase of 25 CW-22B's had also arrived at Maguwo, so that about 20-21 Falcons remained.

Originally, it had been planned to evacuate all training aircraft to Australia to continue flight training at an RAAF base. These plans did not materialize and after the Japanese landings on 1 March, orders were given to destroy the aircraft at Tasik Malaja. Several CW-22's survived, probably the newly arrived CW-22B's at Maguwo which were still being assembled, and were flown by the

Japanese, as proven by photographs. One example was present at a display of captured Allied aircraft in Japan in 1942. Some were found at Kallang airfield (Singapore) after VJ Day. Reportedly these were in good condition at the time, but were soon reduced to wrecks by local Chinese looking for useful materials and by souvenir hunters. After the 9 March 1942 surrender of the NEI forces on Java, a Dutch POW saw a Falcon in Japanese colours flying over Malang and after the war a Falcon (together with a Japanese "Helen" bomber) was found by advancing Dutch troops in a technical school of the Indonesian Air Force.

One more chapter was to be added to the saga of the Dutch CW-22's. Four of the second order of 25 arrived just before the surrender, as related above, but the rest were shipped too late for the fighting in the Indies. They sailed on two Dutch ships out of New York; the MS Sloterdijk, which carried seven, and the MS Tjibesar, carrying 14. The Sloterdijk sailed into Tjilatjap, the last open harbour in Java, but did not unload its cargo. It sailed again for Freemantle, Australia, on 2 March. The Tjibesar was diverted directly to Australia. The Dutch had little use for the Falcons anymore, especially since their flight school was being moved to the USA. Besides, everything with wings that wasn't a bird was being pressed into operational service in the rather panicky situation in Australia. The considerable number of Dutch aircraft in Australia (either evacuated from Java or shipped from the USA) was turned over to the RAAF or USAAF, the 21 CW-22's included. Twelve of these were assigned to the 35th Pursuit Group of the USAAF. Since they had not been built for the US government, they did not have "Fiscal Year" numbers, but were registered with the Curtiss Wright factory serial numbers (3536, 3758, 3760-3762, 3765-3768, 3770, 3774, and 3776). 3536 is probably a misprint in the 35th PG strength list; 3736 is more likely. Fifth Air Force strength reports state that on 31 May 1942, a total of 14 CW-22's remained on strength, four having been lost through accidents, the rest presumably cannibalized for spare parts. In March 1944, one CW-22B was still being used as a hack with the 60th Depot Group at Port Moresby.

#### NEI REGISTRATION:

CW-22 CF-465/499

CW-22B CF-4100/4124 (numbers are not confirmed, but they follow the NEI registration system)

#### TECHNICAL DATA CW-22:

Span	35' 0" (10.68 m)
Length	26' 6" (8.24 m)
Height	7' 6" (2.28 m)
Empty Weight	2307 lbs (1047 kg)
Gross Weight	3200 lbs (1452 kg)
Gross Weight (max overload)	3500 lbs (1589 kg)
Typical useful load	
Crew	374 lb (170 kg)
Guns & Ammunition	110 lb (50 kg)
Bombs & Racks	264 lb (120 kg)
Radio or Camera	66 lb (30 kg)
Fuel (66 US gal, 250 l)	379 lb (172 kg)
Engine	Wright Whirlwind R-975-E3
Take Off Power	450 hp (2200 rpm, sea level)
Max Cruise Power	420 hp (2200 rpm, 1400 ft)
Fuel Consumption	
cruise	35 US gal/hr (132 l/hr)
Max Speed	
2500 ft (763 m)	215 mph (346 km/hr)
Max Diving Speed	250 mph (402 km/hr)
Cruise Speed	
2500 ft (763 m)	195 mph (314 km/hr)
Landing Speed	
full flaps	58 mph (93 km/hr)
Climb Speed	1870 ft/min (570 m/min)
Service Ceiling	25,900 ft (7890 m)
Cruise Range	
max endurance	518 mi (833 km)

Gerard Casius (SAFCH #649), 91 N. Main St., Cedarville, NJ 08311

⊙ Main military airfields

● Other airfields

⊙ Towns

→ Japanese landings 1 March 1942



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(Continued from page 37.)

IPMS HAWAII (1650 Leha St., Honolulu, HI 96818; \$4.00 per year)

#9 (16 pages) Drawings and kit reviews for Jordanian Mirage F.1C R-5E Tiger II, and F-5F Tiger II. (Also includes a good articles on the B-25's that raided Tokyo with marking information and color chips.) #10 16 pages) Ten pages devoted to the Bronco with drawings of details. Photo of Chinese MiG-17 '83065' at Taipei.

DIRTY PLASTIC (IPMS PHOENIX, 509 W. Camino Dr., Phoenix, AZ 85021; 4 issues for \$6.00.)

Fall 83 (20 pages) Nothing of small air force interest.

Winter 83/84 (20 pages) "Kit Review: The KP Avia B.21" 3 pages including reproduction of drawings from instruction sheet. "Kit Review: The Cap Croix du Sud MiG-3" 2 pages including reproduction of drawings from instruction sheet. "Austral Aircraft: A Herd of Hinds" 3 side-view drawings of RAAF and RNZAF Hinds.

# THE DORNIER Do-24K

By the mid 1930s, the Dornier Wal flying boats which had served with the Naval Air Service (MLD) in the Netherlands East Indies since 1926, were becoming obsolescent and there was a definite need for more modern equipment. On the instructions of the MLD staff, Officer of the Naval Technical Service Second Class Carl Sanders prepared specifications which when transmitted to the Dornier factory served as the basis of a new flying boat, the Do-24. On 3 August 1936 a contract was signed calling for the delivery of six flying boats to the Royal Netherlands Navy.

Dornier built three different prototypes; Do-25 V-1, V-2, and V-3. The highest priority for construction was allotted to the third machine since it was this one that was destined for the MLD. The difference between these three prototypes was principally in the choice of engines; the V-1 and V-2 were powered by Junkers Jumo 205C diesels of 600 hp, while the V-3 received the Wright Cyclone GR-1830 F52 of 760 hp. The MLD wanted the Wright engine since it would be compatible with the engines used in the majority of aircraft flying with the Military Air Service of the KNIL (Royal Netherlands Indies Army).

The first test flight of Do-24 V-3 (registered D-ADLP) took place on 3 July 1937 and was so successful that on 22 July a second contract was signed for the delivery of 12 more machines. The export Do-24 were designated Do-24K. In September 1937, off Scheveningen, the Do-24 demonstrated its ability to operate in rough seas by taking off without difficulty even though the waves came above the cockpit. After acceptance of the prototype by the MLD, this machine was shipped to the Netherlands Indies on 10 November 1937. This machine and the following two were shipped from Hamburg, but, beginning with the fourth machine, all shipments were made exclusively from Rotterdam.

In 1938, a further order for 6 more machines was placed with the Dornier factory. In a step of greater importance to the Netherlands, Dornier granted to Aviоланда at Papendrecht and De Schelde in Vlissingen the rights to build the Do-24 under license. The first order from the Dutch companies was for 18 machines. De Schelde was to build the complete wing with engine nacelle and wing struts plus the fuel tanks. Aviоланда was to take care of the remaining parts plus the final assembly. However, the setting up of the production line took time, and in view of the worsening political situation, an order for a further six machines was placed with Dornier on 13 January 1939. This order did not go to the Dornier factory at Friedrichshafen, but to Aerometall A.G. in Zurich.

In 1939, two more orders were placed with Aviоланда for a total of 25 additional machines; this brought the total number of machines ordered from the Netherlands to 43 machines. However, at the time the Netherlands was occupied by the Germans in May 1940, thirty seven of these machines had been delivered to the MLD. The remaining 36 machines were completed under German supervision and placed in service with the Luftwaffe.

## Technical Data

The Dornier Do-24 was an all-metal, three-engine, high-wing flying boat. Its military function was to serve as a long-distance reconnaissance aircraft and/or bomber.

The fuselage was divided into nine watertight compartments: bow compartment, pilot's compartment, observer's compartment, pump room, foremost cabin, rear cabin, middle gun turret, stern compartment, and rear gun turret.

Six removeable bomb racks were located on the outermost wing panel. Each wing could be loaded with four 300-kg bombs, six 200-kg bombs, or 12 50-kg bombs.

The three engines were mounted on the front edge of the wing with a separation of 3.6 m. On the first 36 ma-

chines (designated Do-24K), the engines were Wright Cyclone GR-1820 F52; later machines would use the GR-1820 G105A and the type designation would be changed to Do-24K2. These 9-cylinder engines differed only in horsepower; externally there was no discernible difference. When viewed in the direction of flight, the propeller rotated to the right. The three-bladed, adjustable propellers were Hamilton constant-speed type with a diameter of 3.5 m.

On the first 12 machines, the three revolving gun turrets were all of the same type with each mounting a 7.9-mm Colt-Browning machine gun. From the thirteenth machine on, the middle gun position was fitted with a 20-mm Hispano-Suiza #404 rapid-fire gun in a special turret of French design. Because of the weight of this new gun and its considerably greater recoil forces, the middle gun compartment had to be considerably strengthened. This work was so extensive that it was impractical to consider rebuilding the first 12 machine to carry this new gun.

## Specifications

Overall length	21.95 m
Wingspan	27.00 m
Height (to propeller arc)	5.75 m
Height of fuselage	2.10 m
Width of fuselage (incl. sponsons)	7.40 m
Width of fuselage (excl. sponsons)	3.00 m
Empty weight	7865 kg
Maximum weight	12400 kg
Wing Area	108 m <sup>2</sup>

Crew (6): pilot, observer/radio operator, bow gunner, middle turret gunner, rear turret gunner, flight engineer.

Takeoff Power	875 hp
Ceiling at maximum weight	5600 m
Takeoff time (maximum weight, sea level, zero wind)	17 s

## Contract Summary

Contract	Date	With	Registration	Type	c/n
1	8/3/36	Dornier	X-1/X-6	Do-24K	761-766
2	7/22/37	Dornier	X-7/X-18	Do-24K	767-778
3	5/30/38	Dornier	X-19/X-24	Do-24K	779-781 783-785
4	4/13/38	Aviоланда	X-30/X-36 X-38/X-48	Do-24K Do-24K2	67-73 74-84
5	1/13/39	Aerometall	X-25/X-29 X-37	Do-24K Do-24K	695-699 700
6	6/16/39	Aviоланда	X-49/X-61	Do-24K	85-97
7	39	Aviоланда	X-62/X-73	Do-24K	98-109

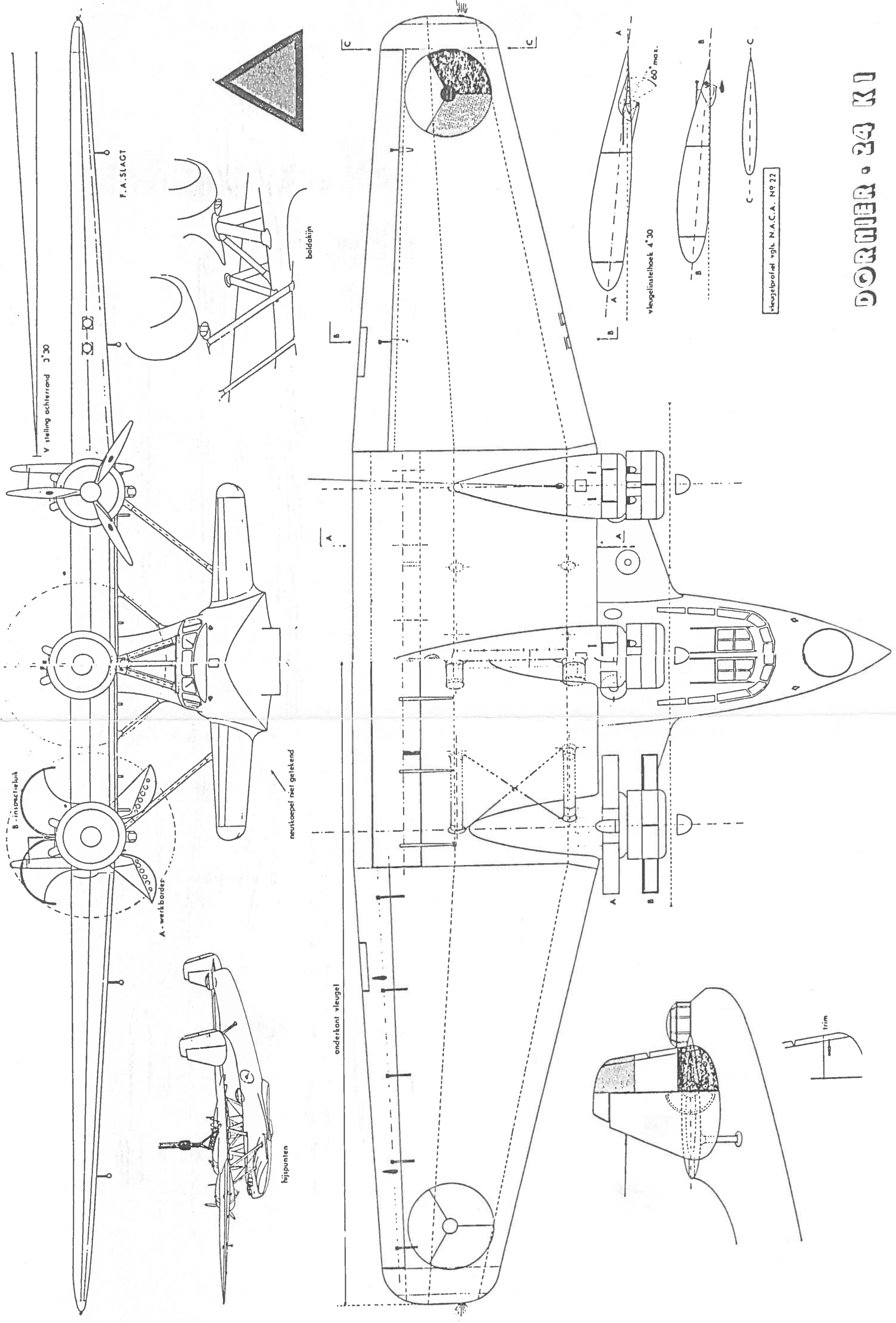
Only X-1 to X-37 were delivered to the MLD. The machines under construction at Aviоланда and De Schelde were confiscated by the Germans. All available Wright Cyclone engines were installed and these machines were designated Do-24N in Luftwaffe service. The remaining machines were fitted with BMW Bramo Fafnir 323 R-2 engines of 1000 hp; these machines received the designation Do-24T-1, and later, after modification, Do-24T-2.

## Operational Service

The prototype, X-1, arrived in the Netherlands Indies early in 1938. By the end of 1938, there were 15 machines in the Indies, and by the end of 1939 there were 31 machines in the Indies.

After the customary working-up and training periods, the Do-24 rapidly replaced the aging Dornier Wal flying boats in the Groep Vliegstuigen (aircraft groups), shorten-

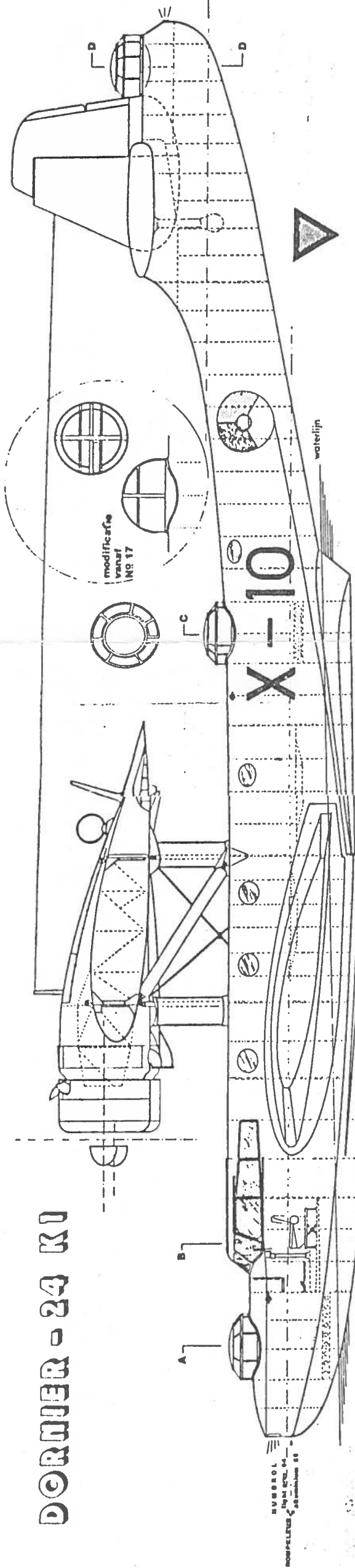




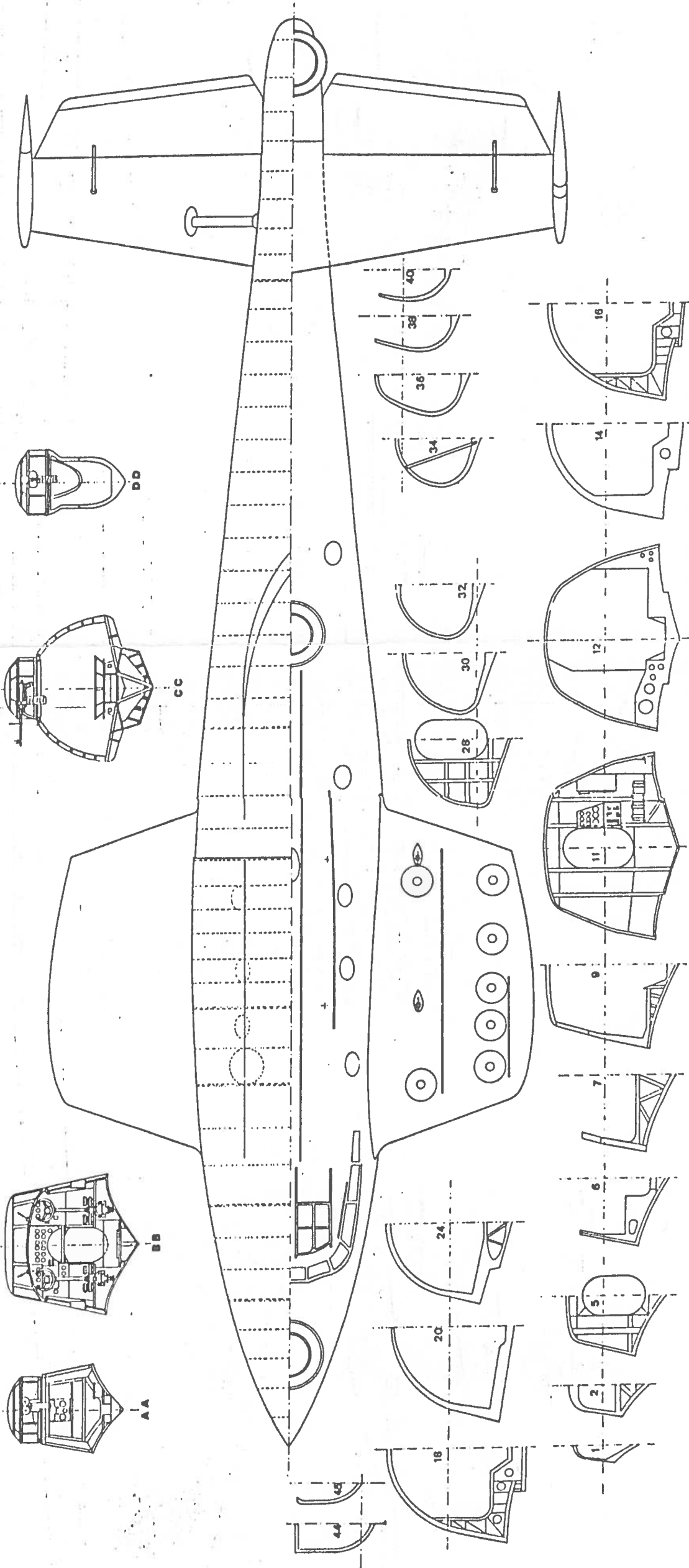
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DORNIER • 24 K I

# DORNIER-24 K1



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45



ed to GVT.

A review of the actions of the individual machines and of the GVT's is beyond the scope of this article. A short review will have to suffice. (Note that MVKM stands for Naval Air Station at Morokrembangan at Surabaya. This was the biggest and best equipped naval air station in the whole Far East.)

After the Japanese attack, on 19 February 1942, five Do-24s were sent to Australia for the purpose of training crews in a less dangerous environment. At the end of April of that year, these machines were taken over by the RAAF, together with X-24, the only Do-24 that reached Australia safely. (X-1, -3, -20, -23, and -28 also reached Australia, but while disembarking passengers in the harbor at Broome on 3 March 1942, they were discovered by Japanese fighters and destroyed. X-36 also reached Australia, but it made a forced landing on the coast and had to be destroyed by its crew.)

#### Aircraft Histories

X-1 GVT 7; destroyed 3.3.42 at Broome  
X-2 lost 24.4.41 near MVKM  
X-3 GVT 6; destroyed 3.3.42 at Broome  
X-4 lost 13.11.40 night landing  
X-5 training; to Australia 19.2.42; to RAAF as A49-1  
X-6 GVT 1 15/26.12.41; destroyed 3.2.42 at MVKM  
X-7 as X-5; to RAAF as A49-2  
X-8 as X-5; to RAAF as A49-3  
X-9 as X-5; to RAAF as A49-4  
X-10 GVT 7 17.12.41/20.12.41; as X-5; to RAAF as A49-5  
X-11 GVT 2; destroyed 26.12.41 at Lake Tondano  
X-12 GVT 2; as X-11  
X-13 GVT 4 27.1.42; GVT 7 destroyed 7.2.42 at Roti  
X-14 GVT 4; lost 23.1.42 night landing at Balikpapan  
X-15 GVT 1; lost 29.12.41 air combat NW of Borneo  
X-16 GVT 8; destroyed 1.3.42 at Tandjong Priok  
X-17 GVT 8; lost 24.2.42 air combat at Noordwachter  
X-18 GVT 8: as X-17  
X-19 GVT 3 3.11.41; GVT 4 23/25.1.42; lost night landing at Menari  
X-20 GVT 3 31.12.41; GVT 7 ? 2.42; destroyed 3.3.42 at Broome  
X-21 GVT 4 27.1.42; GVT 6 11/25.42; lost at Bali  
X-22 GVT 3 31.12.41; lost 5.2.42 at MVKM  
X-23 GVT 6 4.2.42; lost 3.3.42 at Broome  
X-24 GVT 7 ? 2.42; to Australia; to RAAF as A49.6  
X-25 GVT as X-11  
X-26 GVT 5; shot down 23.12.41 over Davao  
X-27 GVT 5; as X-26  
X-28 GVT 6; destroyed 3.3.42 at Broome  
X-29 GVT 6; lost 11.2.42 in forced landing south of Borneo  
X-30 GVT 5 24.12.41; destroyed 3.2.42 at MVKM  
X-31 GVT 6: as X-30  
X-32 GVT 7: as X-13  
X-33 GVT 7 ? 2.42; as X-22  
X-34 GVT 7; destroyed 17.12.41 at Miri  
X-35 GVT-1 1.1.42; GVT 7 3.1.42/7.2.42; as X-13  
X-36 GVT 1 15.12.41; GVT 1 27.12.41/1.1.42; GVT 7 ? 2.42; destroyed 3,3.42 at Broome  
X-37 destroyed 3.2.42 at MVKM

The most successful offensive action by a Do-24 was executed by X-32 which sank the Japanese destroyer SHINONOME on 17 December 1941. Two out of five bombs dropped hit the destroyer while it was speeding along at 30 knots. The explosion that followed stopped the ship and it sank within five minutes.

#### GVT Bases

GVT 1 Kalabahi, Ambon, Surabaya, Pontianak, Tajan, MVKM  
GVT 2 Sorong, Tondano  
GVT 3 Samboe, MVKM  
GVT 4 Sambas, MVKM, Tarakan, Balikpapan, Surabaya  
GVT 5 Ternate, Tondano. MVKM  
GVT 6 Surabaya, Tajan, MVKM, Koepang, Lenkong, Australia

GVT 7 Tarakan, Surabaya, Makassar, Savo Sea, Roti, Australia  
GVT 8 Poeloe Samboe, MVKM, Surabaya, Lake Toba, Tandjong Priok

#### Color Schemes and Markings

Originally, the exterior was painted using Ikarol paint. According to the instructions, the color above the waterline was Gray 103/2, and that under the waterline was Silver 111/s. The exact shades were not recorded, but on the basis of contemporary color prints and the interpretation of photos, these colors are approximated by the Humbrol paints: No. 64 Light Gray and No. 56 Aluminum.

The engine exhausts are of stainless steel, for which Humbrol No. 53 Gunmetal with a small amount of No. 11 Silver is a close approximation.

The interior was aluminum except for the instrument panel (dull black), floors (linoleum color, e.g., Humbrol No. 27), and tables (white lacquer).

During 1940-41 a new color scheme was developed to make the aircraft less visible when seen from above. At the same time, experiments were conducted to find a paint better than Silver 111/s to protect the underwater surfaces from corrosion. Again the exact shades are not known, but good approximations appear to be: Humbrol HN 2 Dark Gray to replace 103/2 and Humbrol No. 90 Beige Green to replace Silver 111/s. The undersides of the wing and tail surfaces were also painted in the light color.

Before the war, the Netherlands national insignia was the same as today, a red-white-blue rosette with an orange dot. The diameter of the orange dot is always 1/5th of the diameter of the large circle. The large circle is divided into three equal parts, with the colors red, white, and blue clockwise. On the wings, the dividing line between blue and red is always parallel to the line of flight and points to the front. On the fuselage this line points straight up. The rudder is divided into three equal bands, red, white, and blue from the top. On aircraft with a double rudder, such as the Do.24, these stripes were applied only on the outside surfaces.

On the Do.24, the rosettes on the wings had a diameter of 150 cm and the border of the rosette was located 50 cm from the leading and trailing edges of the wing as well as the wing tip. On the fuselage, the rosette had a diameter of 85 cm, and its center was located midway between the trailing edge of the wing and the leading edge of the rudder. The bottom of the rosette touched the sharp break in the contour of the fuselage cross section. The aircraft numbers were painted in black on both sides of the fuselage directly under the middle turret.

The rudder stripes were discontinued on 5 December 1938.

Effective 1 October 1939, the rosettes were replaced by equilateral orange triangles with 10-cm black borders. In addition, both sides of the rudders were orange with 10-cm black borders. (Editor's note: all photos I've seen show the orange only on the outsides of the rudders.) The triangles on the fuselage were in the same place as the rosette with the orange part the same size as the rosette (85 cm). The triangles on the wings were 5 m from the wing tips, and had a height (including the black border) of 3 m. The aircraft numbers were applied in black, 25-cm characters on the fuselage under the horizontal tail.

In April 1941, the triangles on the fuselage were replaced by smaller triangles that were 1/3rd the size of the original ones, but the border remained 10 cm. Some time later, the triangles on the upper surfaces of the wing and the orange on the rudders were eliminated.

Finally, sometime in March 1942, the triangles were replaced by the Dutch flag. On the fuselage, the dimensions were 30 by 50 cm and on the undersides of the wings they were 225 by 375 cm. The locations were the same as for the triangles. It is not known if these marking were applied to any Do-24s in the Indies; photographic proof of these markings is only available for the six machines that reached Australia.

After transfer to the RAAF, the Do-24s received the standard RAAF camouflage colors and roundels.

We will discuss here only the differences between the K and T versions. Anyone wishing to build an accurate Do-24T should obtain MODELL MAGASIN of December 1978 and January 1979 which goes into minute detail on how to correct and improve the Italaerie kit.

1. Engine: The nacelles must be lengthened by 2 mm in the front. The cowls must have the following dimensions (in 1/72 scale): total length 10.8 mm, outside diameter 19.2 mm, diameter of opening 15.0 mm. The exhausts are positioned 2 mm more towards the outside (30° from center line). An air inlet for the Wright engine is on the top, between the two exhausts, and the lower intake is more rounded than on the kit.

2. Propellers: The propellers have the correct shape and diameter, but the spinner must be modified. It does not protrude behind the blades. The spinners are also bigger and more blunt than the versions furnished with the kit.

3. Direction finder: The "lump" behind the middle engine must be removed this was the location of the direction finder on the German machines; on the MLD machines the direction finder was the familiar loop antenna.

4. Access hatch: The four large rectangular hatches on the kit were not on the Do-24K, and the engraving must be filled and sanded smooth. The correct hatch was circular (7 mm diameter) with a port hole in the center (2.5 mm diameter) and was located on the port side in the position of the front port hole.

5. Gun turrets: The nose turret is correct for all three turrets on X-1 to X-12. The middle turret furnished with the kit is correct for X-13 and the following machines. The tail turret furnished with the kit is of a type that was never used by the MLD. Fitting the correct rear turret is difficult because the tail position in the kit is too narrow. The nose turret must be moved 3 mm to the rear.

6. Port holes: The four port holes on each side must be moved 7 mm forward and 2 mm higher. A pair of port holes are located behind the middle turret on both sides of the fuselage.

7. Landing lights: The MLD machines had two landing lights in the leading edge of the port wing. The kit has only one and it has the wrong shape for the Do-24K. The Do-24K had two square landing lights, one in the same place as the kit and the other 3 mm further out on the wing.

8. Tail unit: The horizontal stabilizer of the kit is too far back; it must be moved 5 mm forward. This will require considerable filling to contour the fuselage smoothly into the tail unit.

9. Miscellaneous details: The small hump on the fuselage between the middle turret and the tail did not appear on MLD Do-24Ks. Four stripes should be added to the top of the fuselage between the canopy and the middle turret.

10. Interior: The two seats should be moved forward so that space remains between the seat and the bulkhead. The back rests of the seats should be cut off 7 mm from the floor. A sunken walkway (3 mm deep) runs between the two seats to a watertight door behind the instrument panel.

11. Canopy: The cross bars in the last window of the cockpit canopy furnished with the kit were not there and should be left unpainted. The canopy supplied with the kit is too wide; this can be corrected by sawing the canopy into two pieces and removing 1.5 mm from the middle.

Further additions and corrections can best be determined by studying the drawings.

(Editor's note: This article was written by R.V.P. Burgerhout and first appeared in MODELBOUW IN PLASTIC, the magazine of IPMS-NEDERLAND. The translation was by Grace G. Wetterau and was supplied to the SAFO by Jim Maas (SAFCH #411). This article is reprinted here with the kind permission of IPMS-NEDERLAND.)

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"The Finnish Air Force has ordered 12 ex-Swedish AF SAAB Drakens for delivery during 1984-86. Although only F-type Drakens have been mentioned in the press, my guess is that some (probably two) will be C-type trainers. These Drakens will be used by Satakunnan Lennosto (SatLsto) in Tampere. This unit is presently operating BAe Hawks.

"The SAAB Draken BS (6 ex-Swedish AF a/c delivered in 1972) and the MiG-21F (22 delivered 1963-66) will be wfu soon. Three of the 7 remaining C-47/C-53 Dakotas have been sold. (Ben Marselis reports that DO-7 has been sold to the Netherlands and may become PH-DDA.)

"Four Piper 31-350 Chieftains were delivered during April-May 1983 and two more were ordered in June. These a/c will be used mainly for all-weather training, but other duties are expected to include liaison and sea surveillance; two of these planes have been equipped with cameras. The planes ordered in June will replace the two Cessna 402B Businessliners (delivered in 1975 and 1977). The Chieftains are coded PC-1 through 4 (and probably -5 and -6) and they have been camouflaged in the same colors as the Friendships, MiG-21bis, etc. All FAF planes are to be camouflaged with these colors, although I suspect that the Drakens, both old and new, may retain their Swedish camouflage. For the modeler, these Swedish colors are being produced by Precision Paints (see Graham Turner's letter in SAFO #26).

"Mil Mi-8 serials HS-7 and -8 are reported to be in service. Has anyone seen photos of these? One more Mi-8 was ordered in January 1983 to replace HS-12 (see SAFO #26). Two Hughes 369D (500D?) were delivered in July 1983; these replaced Hughes 500C HH-1 and 369C HH-2 which were wfu after accidents during the summer of 1982. These older aircraft were delivered in 1976 and 1978.

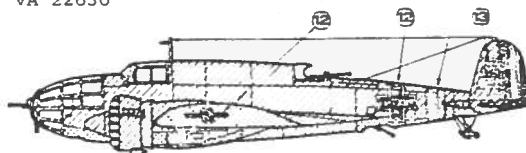
"Sources: Finnish and Swedish newspaper; Mr. Esa Muikku, and Mr. Ben Marselis."

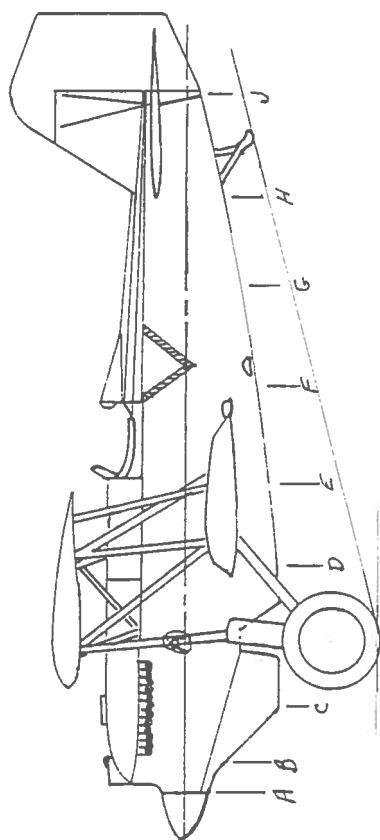
Martti Kuivalainen (SAFCH #282), Fysikgrand 1D-213, S-902 40 Umea, Sweden

"A mutual friend suggested I drop you a line for several reasons. First of all, I would like to subscribe to your publication. It sounds just like the kind of thing I would be interested in. Secondly, I might be able to contribute in some small way. I visit many different countries each year as a full time aviation writer/historian. Over the past couple of years I have been to the Dominican Republic, Argentina, New Guinea and this year I will be going to Panama, Burma, Spain, People's Republic of China and Argentina again.

"At present I am working on three books you might be able to help me with. I would be more than happy to exchange information and photos to borrow, copy and return what you may have. 1) A-4 Jet Combat History for Jane's Pub Co. This book on the Skyhawk will be 80% combat and very little development. I want to emphasize Israeli and Argentine use of the aircraft in combat in addition to Vietnam. Any photos or stories I could borrow? Bob mentioned you did a feature on Israeli A-4s in Vol.6, No. 2. 2) F-86 Jet Combat History for Jane's. Just like A-4, 80% combat with emphasis on Taiwan in 1956 firing Sidewinder for first time, Pakistani War with India in 1956 and '72, Australian combat in Vietnam and of course Korean War. 3) Special Forces/Mercenary/Air Wars of the last 30 years. I want to do a book on all the small brush wars fought by aircraft from Nigeria to the Soccer War in 1969 to the latest uprisings. Anything that has to do with small air forces in combat. I am trying to find material on American mercenaries flying for other countries in combat but that stuff really comes hard, as I am sure you know."

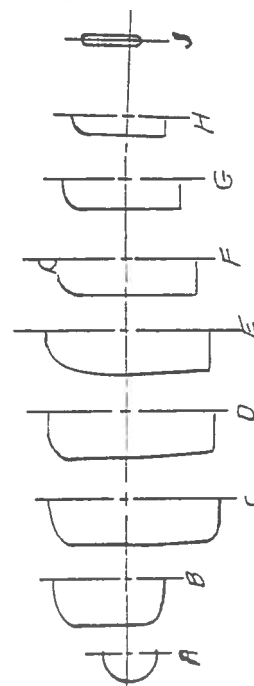
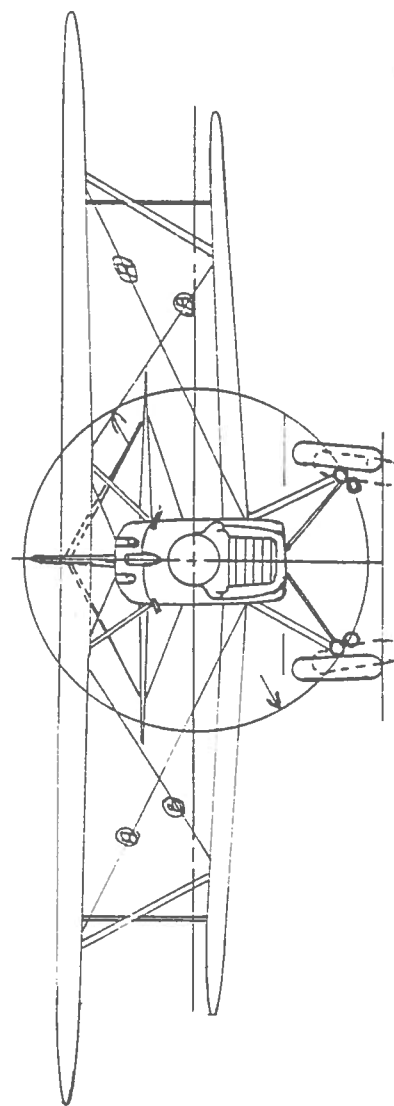
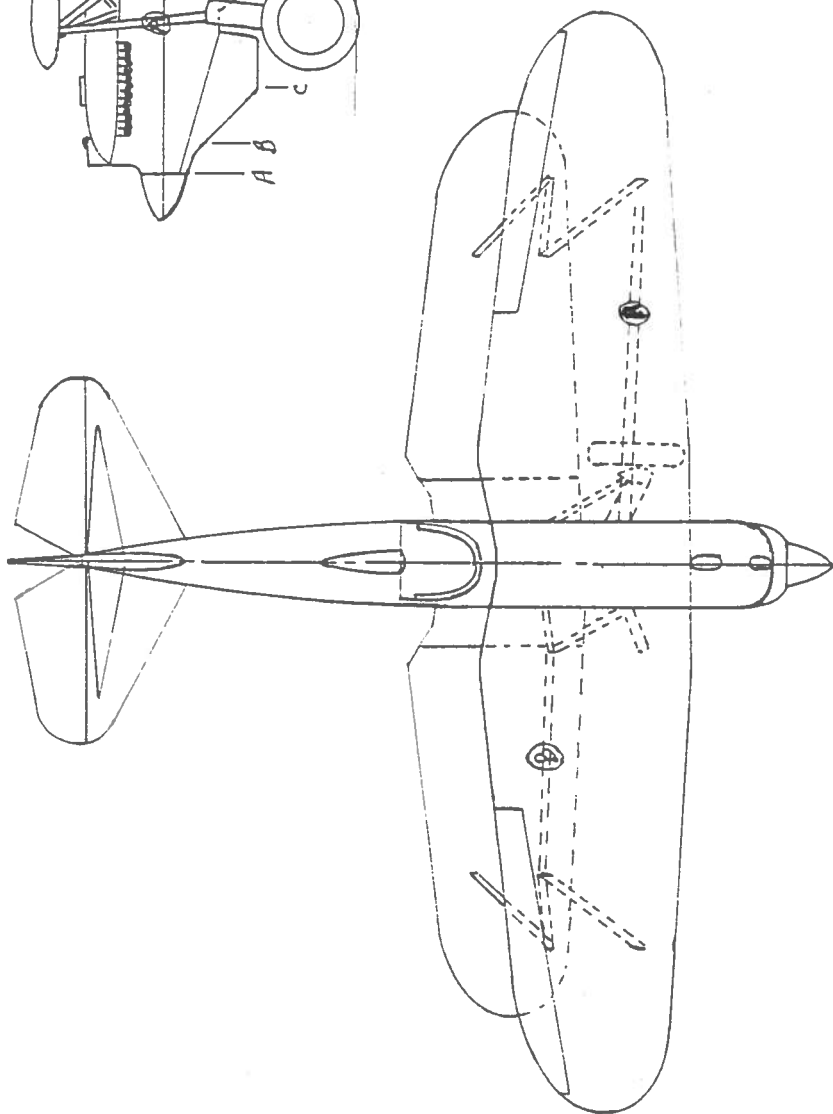
Jeffrey L. Ethell (SAFCH #675, Rt. 1, Box 5, Front Royal, VA 22630)





Aircraft  
of the  
Small Air Forces

**Curtiss Hawk P-6**



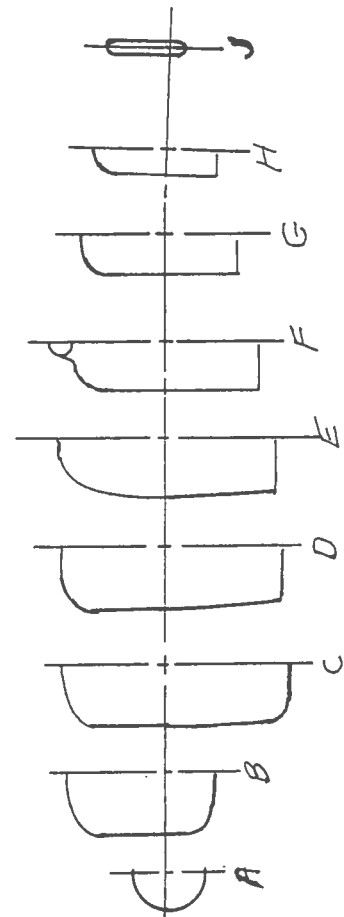
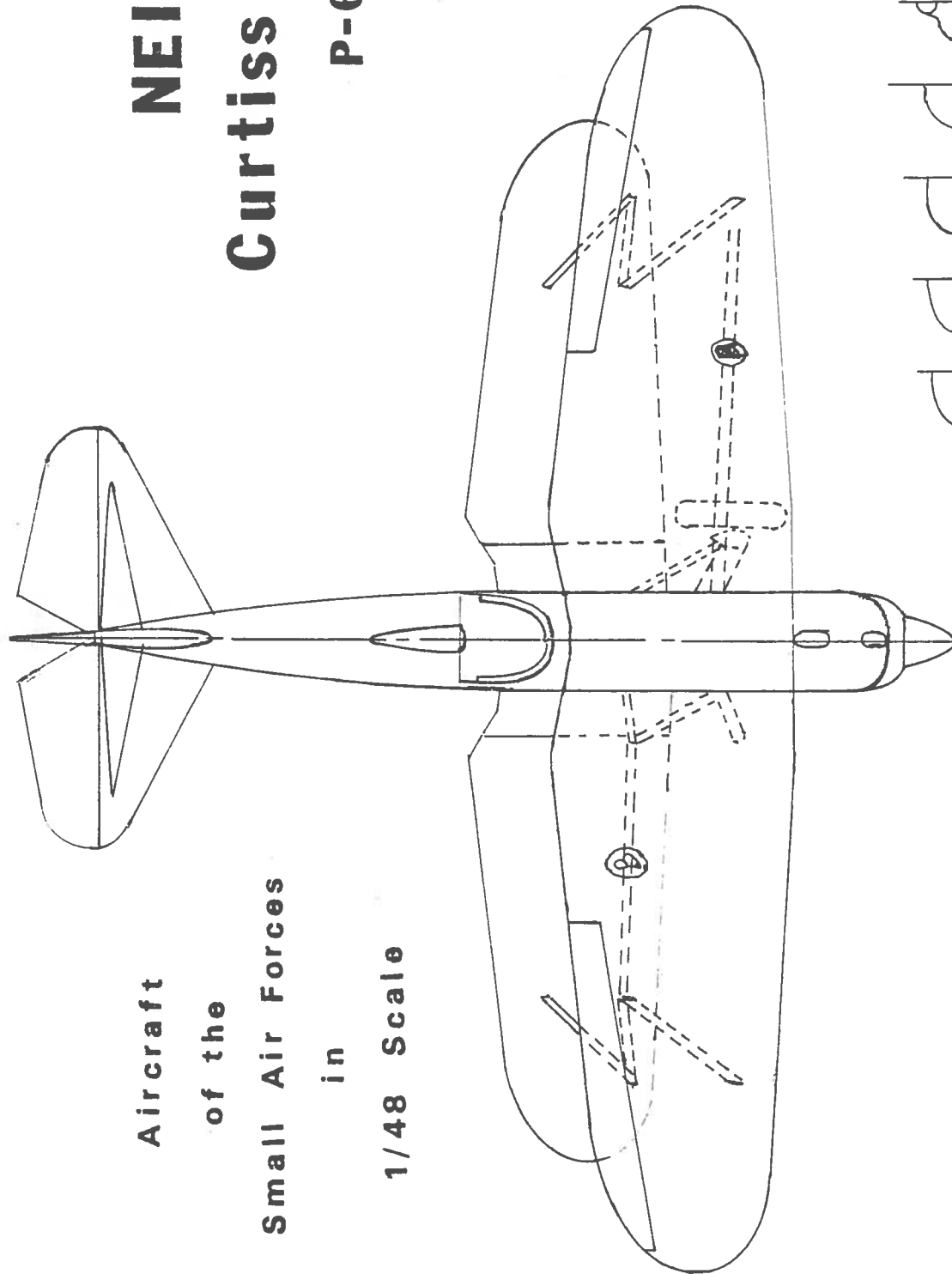
Aircraft  
of the  
Small Air Forces

in

1/48 Scale

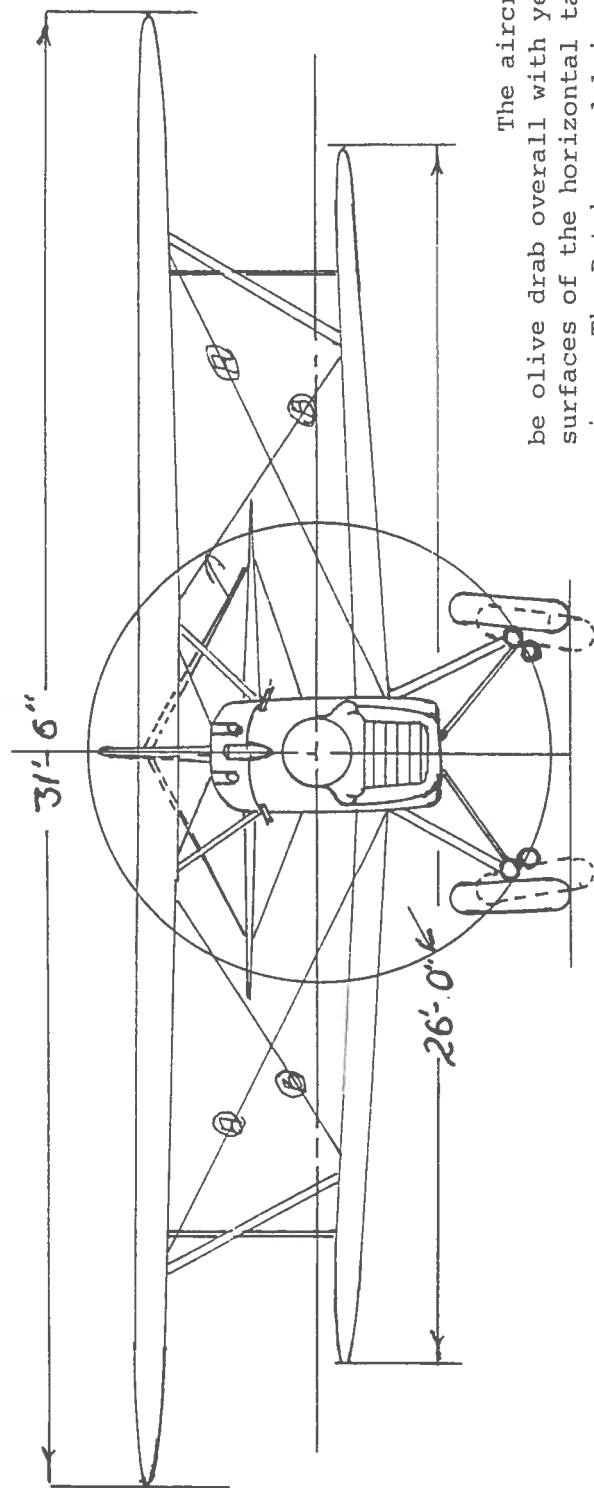
# NEIAF Curtiss Hawk

P-6



This ugly little progenitor of the elegant P-6E was used by the NEIAF from 1930 to 1937. Eight aircraft (C.307 to 314) were purchased directly from Curtiss and a further six (C.315 to 320) were license-built by Avirolanda. Photos of these aircraft are found in Hooftman, "Van Glenn Martin en Mustangs" and Casius and Boer, "NEIAF" Air Combat March 1975.

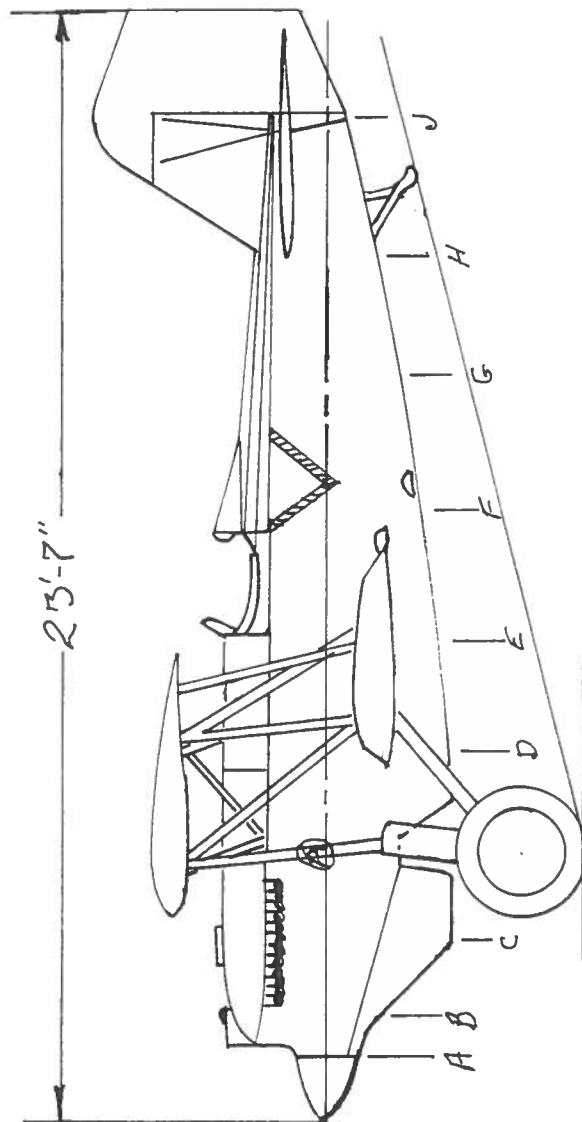




The aircraft appear to be olive drab overall with yellow upper surfaces of the horizontal tail and upper wing. The Dutch roundel is carried in the usual six positions (close to the wing tips and rather far back on the fuselage) and the rudder was in the Dutch national colors. The serial number was in white on the vertical stabilizer.

As usual, exception were the rule: the prototype Aviolanda aircraft carried serial 'H1' in large white letters in front of the cockpit; some aircraft carried the roundel at mid-fuselage with large white serials aft; and 'C.313' had the serial on the fin, but the forward-positioned roundel with two white diagonal stripes around the rear of the fuselage.

Drawn by Wayne A. Denny (SAFCH #422) with assistance from Ray Wagner, "American Combat Planes", Rubenstein & Goldman, "To Join the Eagles", William Wylam, Lloyd S. Jones, and E. F. Schmidt.



# PHOENIX AIR ARM

## The Embryo Indonesian Air Force at War

On 17 August 1945, three days after Japan's unconditional surrender, the Nationalist Movement in the former Netherlands East Indies, proclaimed the Indonesian Republic. The Dutch greatly resented this and so for four years the Indonesian Republic and the Netherlands were at war.

In order to defend their newly proclaimed independence, the Indonesians formed the People's Security Corps of which the Air Service Volunteer Corps (ASVC) was soon to become an important part. The first priority of this new air arm was to recover and repair as many ex-Japanese aircraft as possible from the airfields and dumps on the islands. These machines formed the first, and for awhile, the only equipment of the ASVC. It is probable that only about 50 aircraft were made airworthy in this fashion; however, a much larger number of machines received Indonesian markings even though they never took to the air.

Few Indonesians had any combat experience or even the rudimentary knowledge of flying, so a flying school was started at Djakarta under Colonel Adisutjipto, who as a former Netherlands East Indies pilot had seen combat during the Japanese invasion.

By 1946, the poor equipment and lack of trained personnel, together with attacks by the Dutch forces, had reduced the small number of aircraft originally available to a mere handful. It was obvious that, if the air arm was to continue, a new source of equipment had to be found. The first 'new' aircraft was a C-47 bought with funds provided by sympathetic friends in the USA. This was soon followed by DC-3, Avro Anson, DH 86, Stinson L-5, and PBV-5A Catalina. Training was now also undertaken in India who also provided help in the form of advisors.

The superiority of the Dutch Forces continued to take its toll, and by 27 December 1949, when Holland finally accepted the existence of Indonesia, all of the original Japanese aircraft had been lost or grounded. However, the part they played in these early days was of utmost importance to the embryo republic and is still venerated by the present-day Indonesian Air Force.

The following is as accurate a list as possible of all the aircraft used by the ASVC: 1 Kawanishi h6K5, 6 Kawasaki KI 61, 1 Mitsubishi KI 21, 8 Mitsubishi KI 51, 6 Nakajima KI 43, 2 Mansyu KI 49, 4 Tachikawa KI 36, 7 Tachikawa KI 55, 20 Yokosuka Willow, 1 Mitsubishi F1M2, 1 Kawasaki KI 48, 1 Bristol Blenheim.

Fig. A. Bristol Blenheim IV. This aircraft was one of those abandoned by the RAF in Java in 1942. It was made airworthy by fitting it with 950-hp Nakajima Sakae radial engines and it made several flights from Jokacarata in 1946. It is natural metal overall. The rudder carries the standard Indonesian markings of a red upper section and a white lower section. The wings and fuselage carry the modified form of the Japanese Minomara with the lower half white. This, the original Indonesian national marking, appears in six positions as shown in Fig. K.

Fig. B. Kawasaki KI 48 11b (Lily). This machine was one of several aircraft used in Djakarta in January 1946. It is finished in mid-grey overall with a olive green mottle on the upper surfaces. The propeller blades are finished in red-brown. National markings and tail markings are as for Fig. A.

Fig. C. Mitsubishi F1M2 (Pete). This aircraft is finished in dark green on the upper surfaces, but the paint has weathered to the extent that it appears to be mottled in natural metal. The undersides are finished in grey. The letters and the band on the float are red, and the spinner is red-brown. The usual markings appear on the rudder and in four wing positions; the latter taking the form shown in Fig. K.

Fig. D. Nakajima KI 43 11 (Oscar). One of the machines salvaged from a dump at Djakarta in 1946. The markings of this particular aircraft show that it was made from the parts of at least two aircraft. The upper wing and front fuselage are in olive green over natural metal. The rear fuselage apparently comes from a different aircraft and is a dark green. The undersides are in mid-grey. The codes are white and the spinner is red-brown. The anti-glare panel is matt dark blue. Standard markings are carried. Fig. K shows the plan view of this aircraft.

Fig. E. Douglas C-47 (Dakota). This aircraft was the first machine bought by the ASVC. It was purchased in India with funds provided by friends in the USA. It first operated in the markings shown, but later it was given to Indonesian Airways where it was assigned the code RI-001. It is shown here finished in natural metal with a small red-and-white fin flash. The markings on the wings are as in Fig. L. The numbers are in black.

Fig. F. Yokosuka Type 93 (Willow). This is one of the main aircraft types in use by the early air arm, serving both as a trainer and as a light bomber. An example, on display in the Indonesian Air Force Museum, is finished in dark chocolate brown overall with white letters and numbers. The rectangular form of the national marking appears in all six positions, but there is no tail flash.

Fig. G. Mitsubishi KI 51 (Sonia). This is another one of the more numerous aircraft in ASVC service. It is finished in dark green on the upper surfaces and mid-grey below. The spinner is red-brown and the lettering is white. The roundel form of the national marking is applied to all six positions.

Fig. H. Tachikawa KI 55 (Ida). This machine first landed at Kemajoran airfield Batavia in April 1946. It is finished mid blue grey on all surfaces mottled with dark blue green on the upper surfaces of the wings and fuselage. National markings are carried in six positions. The numbers are in black.

Fig. J. Mansyu KI 79. This machine made the first official flight of the ASVC in 10 October 1945 and it is now in the Air Force Museum at Jakarta. It is finished in chocolate brown on the upper surfaces and mid grey on the lower surfaces. The rectangular form of the national marking is applied to six positions. Fig. L shows a plan view of this machine. The bird on the tail is white.

Kits are available for most of these aircraft in 1/72 scale: the Lily, Oscar, & Sonia are available from Hasagawa; the Willow from LS; the C-47 from Airfix & Italaerei; and the Blenheim from Airfix. The Hasagawa Nate can form the basis for a conversion to the Mansyu KI 79.

Bob Massey (SAFCH #364), 108 Worrall Ave., Arnold, Nottingham, ENGLAND

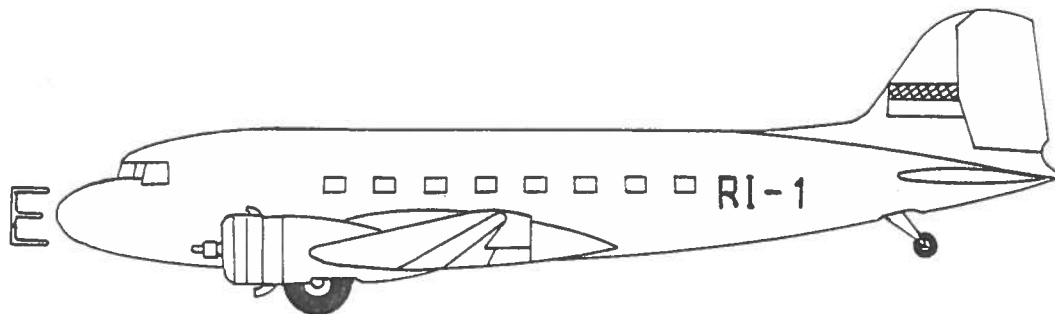
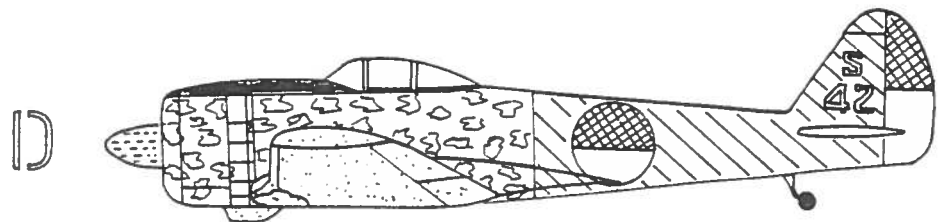
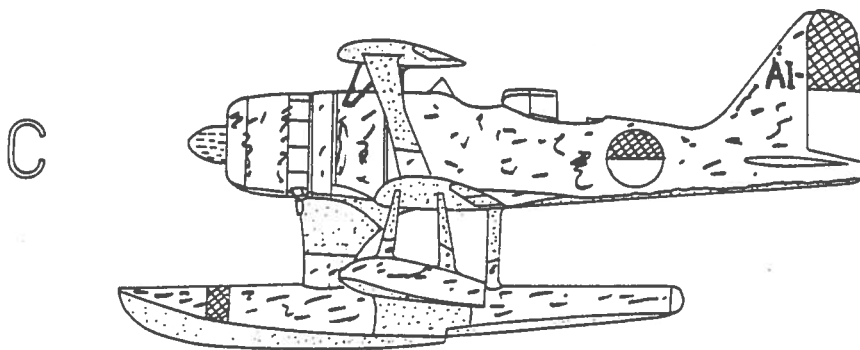
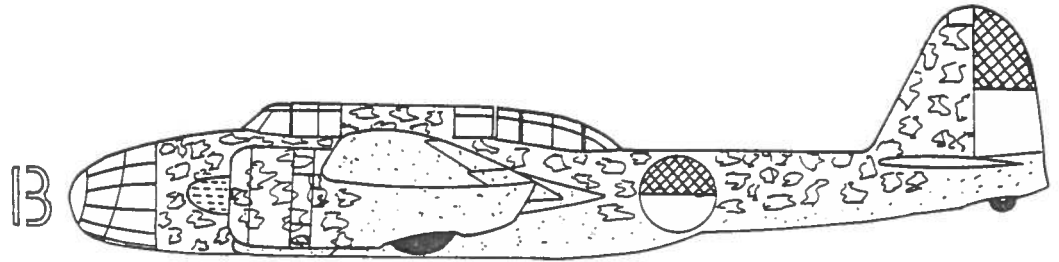
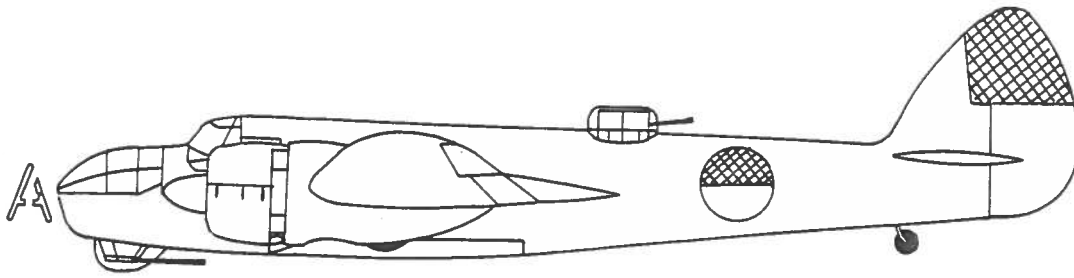
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"Correspondents wanted worldwide to trade quality slides of military aircraft. I am interested in the small air forces, especially Latin American countries. In return, I can provide slides of French and Spanish aircraft."

Daniel Loreille (SAFCH #483), 51 Boulevard des Etats-Unis, 69008 Lyon, FRANCE

"I am looking for RAF FLYING REVIEW bound volumes 1-11, 13-15, 17, & 23-26. Can anyone help?"

Chris Thornburg (SAFCH #175), 4940 Mermaid Blvd., Wilmington, DE 19808



RED



WHITE  
OR  
METAL



DARK  
GREEN



DARK  
CHOC.  
BROWN



OLIVE GREEN  
ON  
MID  
GREY



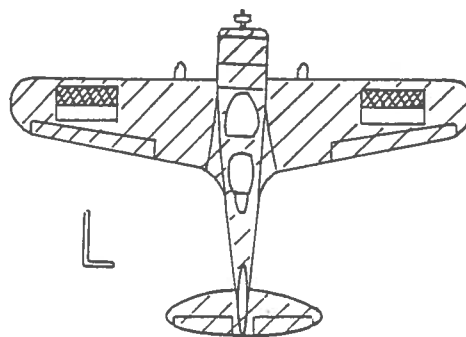
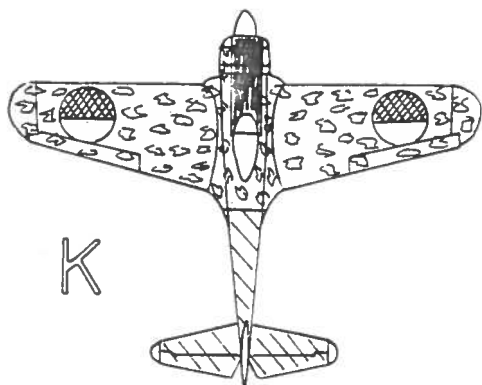
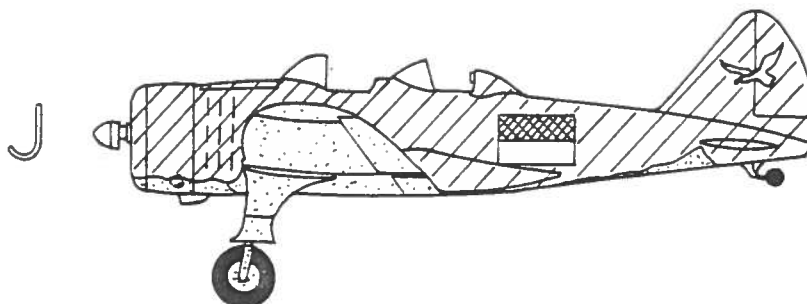
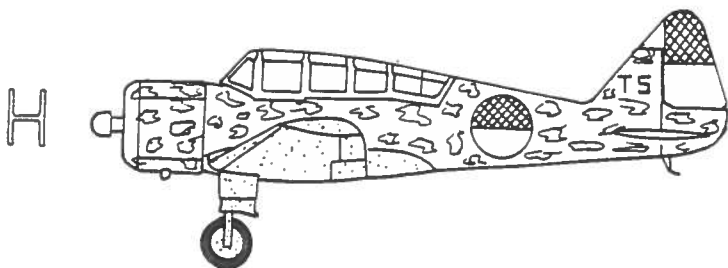
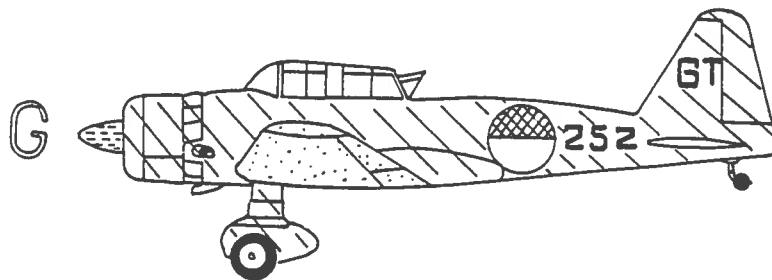
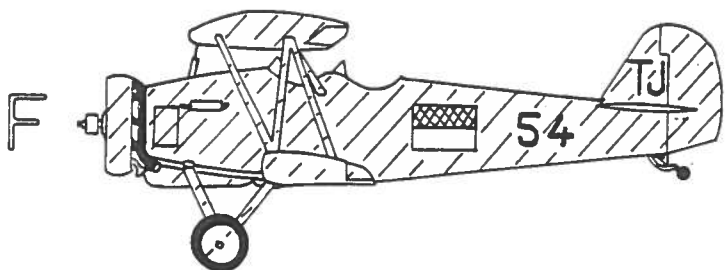
MID  
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DARK  
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RED



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BROWN



OLIVE GREEN  
ON  
MID  
ONLY



MID  
GREY



DARK  
GREEN  
(WEATHERED)



RED  
BROWN

CzechMASTER Epoxy Resin-CASTINGS (1/72) Currently available (prices in \$US includes postage and handling to US and Canada): XP-56/1 \$23; XP-56/2 \$23; N9M \$26; Kago \$18; Ki-60 \$23; Ar-7 \$24; XP-85 \$18; XP-67 \$32; Su-2 \$28; Su-5 \$23; Berlin B-9 \$22; Ar-76 \$20; Ro-57 \$28; He-70 \$25; Fokker D-XVII \$23; Ar-199 \$23; Sikorsky R-4 \$24; FW-190C V18 \$27; Go-145 \$23; Ki-10 \$23; He-280 \$25; Fairey Fantome \$23; Yak-6 \$26; Yak-11 \$20; Bell L39.2 \$24; Fairey Albacore \$26; Loire L-46 C.1 \$22; Ro-37 (in-line) \$23; Ro-37bis (radial) \$24; Nakajima Kikka \$24; He-46D \$23; Me-163A \$17; Me-163S \$17; BV-40 \$14; Hawker Hector \$26; Ar-95 (land or seaplane) \$28; Sopwith Dolphin \$22; I-15 \$21; I-152 \$21; F9C Sparrowhawk \$21. Upcoming kits (production dates not available): Ki-78 \$20; XP-54 \$28; Ki-115 \$22; Leduc D-22 \$28; Fokker G-1 \$30; Payen Pa-22 \$18; Be-4 \$28; Yokosuka Glenn \$22; Polikarpov RZ \$26; Goppingen Go-9 \$16; Grunau Baby II-b \$20; Hansa Brandenburg C.I \$28; Gloster Gamecock \$22; BV-155 \$30; UFAG \$28; Hawker Woodcock \$22; Spitefull XIV \$24.

"Regarding the quoted prices: (1) They are not mine, but those requested by the manufacturer with the aim of financing his visit to the US. (2) I do not make any monetary profit for these sales. (3) The Czech MASTER prices include normal shipping and handling to the US and Canada. Any 'abnormal' shipments must be negotiated prior to sale.

"It takes approximately 7 days for an Air Mail order to be delivered to Czechoslovakia and a minimum of 7 days for the Air Mail shipment to get from there to my home. My experience has been that there is at least one month's time between receipt of the order in Czechoslovakia and shipment of the kit. It has not been unusual for me to wait up to three months. If you desire my prognosis, provide a self-addressed stamped Post Card (or 2 IRCs for surface or 3 IRCs for air) with your enquiry. Questions not accompanied by self-addressed stamped Post Cards, SASEs, or IRCs will be answered last. Payment by Money Order, Certified Check, etc. is preferred. If payment is made by personal check, I will wait for the check to clear before shipping.

"Both my Czech friend and I have full-time regular jobs and all of the other normal demands on our time generated by families, home, etc. I am only involved in this 'business' to help my Czech friend. Please be patient and understanding with both of us."

Bill Brown (SAFCH #526), 1719 Minnie St., Port Huron, MI 48060

"I recently finished digesting SAFO #28 which was a good diet for the Latin American buff, and find that I have only a few comments on some very nice work.

"First, however, I'd like to pass along the information that the piece on the Honduran Air Force I did for Jay Miller's 'Aerofax' will be along shortly; Jay has been devoting much of his time to the marketing of his 'Air National Guard', 'Lockheed U-2', and 'F-16' books, which are without doubt the most impressive studies of these subjects I've ever seen. Interested readers can contact Jay by writing to Aerofax, P.O. Box 5337, Austin, TX 78763. Some folks may also be interested to know that Jay also recently finished a Putnams book on Bell aircraft.

"I'd also like to take this opportunity to announce that John Dienst and I have begun final work on a definitive book on the P/F-51 Mustang (take your choice) in Latin America. We've got some good text and photo/art work and hope to settle many long-standing questions on this subject once and for all. I'll let you know the publication date, etc., as soon as I get the information. Meanwhile, if anyone feels that they have something that should be included in the story, they can reach me via the address below.

"Now for the comments on SAFO #28.

"Pp 122-123: I'm sure everyone was very pleased to see the piece by Jackson Flores on the A-20K in Brazil. Too bad that there was no art work. Readers might be interested to know that, for some reason, official US

documents and records refer to the final five A-20's for Brazil (44-540 to 544) as A-20L's! Naturally, everyone knows that there was no such animal, but I wonder if Jackson can tell us if these five aircraft differed in any way from the A-20K-10-DO's and A-20K-15-DO's in the earlier batches? The identity of the 31st A-20 isn't etched in marble. If it were 44-336, then it would be a A-20K-10-DO. The aircraft received was more likely Douglas A-20A (RDB-7B) 40-113, which was delivered 4-1-44. The FAB apparently also acquired exRAF DB-7B Boston III c/n 2203 AL336 on either 1-12-41 or 11-2-41. Note that the interplay amongst these aircraft is obvious, and I'd like to hear Sr Flores comments about them. Incidentally, credit should be given to CPT Carlos Dufriech for his original research on this subject.

"Pp 124: Regarding the short piece on P-40's in Brazil by Antonio Linares, I'd like to list the known and confirmed deliveries of P-40's to Brazil, all of which I've identified by USAAF serial number: 6 P-40E-1 dd April 1942; 10 P-40K dd November 1942; 10 P-40K dd January 1943; 10 P-40K dd March 1943 (of which three were apparently either lost, deleted, or crashed before being officially taken up); 10 P-40M dd February 1943; 2 P-40K-1 dd October 1943 (the instructional airframes); 5 P-40N-1 dd September 1944; 15 P-40N-1 dd October 1944; 10 P-40N-1 dd November 1944; and 11 P-40N-1 dd March 1944. This gives a total of 89 aircraft of all types, of which three were never received, for a final total of 86. Attrition must have been heavy, as by June 1946, only 65 of all types remained on hand. Last report I know of was June 1954 when no fewer than 33 remained, by then referred to as F-40's (looks odd, doesn't it?).

"Pp 124: Now for Chris Thronburg's 'Aircraft of the Small Air Forces', which deals with my pet air force ... one which I feel better qualified to talk about than any other. I am appalled at this ongoing series which is setting up so many people with erroneous data - data which has been disproved repeatedly and in many publications. Chief amongst these is the repetition of the myth that one ('plus') Boeing P-26 was used! Cancel that. [Editor's note: I will have to take the blame for any misunderstanding over Chris's series. It was Chris's intention from the beginning to collect all available information and make it available to SAFCH members for purification in the fire of mutual discourse (my words, not Chris's). I see now that I did not make this clear, and that Dan is justified in worrying about perpetuating myths. Fortunately, Chris now has all his list on a computer so that work can begin on correcting the list for each country. All SAFCH members who can help should write to Chris (Chris Thronburg, 4940 Mermaid Blvd., Wilmington, DL 19808), and he will send the lists for the countries of your interest. After the lists have been corrected, Chris will make them available to SAFCH members at a nominal cost.]

"Pp 127: There have been several other schemes for the FAB B-17's. Omitted on both drawings were the fully-glassed waist windows which all FAB SB-17G's had. Also, the rear fuselage band is too wide on both aircraft.

"Guess that is it for this time. Tell all contributing members to keep up the great work."

Dan Hagedorn (SAFCH #394), 290-40-0270, HHC 3d Brigade, APO New York 09074

"Something you might want to note in SAFO is the passing from service of the CF-101 scheduled for mid 1984. I spoke with a pilot from 409 Sqn at China Lake (California) on 5 November and he said the 3 Voodoo squadrons are down to 8 active aircraft each with 4 in storage. Most of the CF-101s will be flown to MASDC for storage, but a few will be kept for display.

"The rumor is that the F-101s will become target drones after the supply of QF-100s is exhausted. By the way, some of the first Canadian F-101B were converted to RF-101Bs upon their return to the US. The RF-101Bs were issued to the Nevada ANG."

Tim White (SAFCH #356), 1148 Bishop Ave., Hayward, CA 94544

EL FUGAZ PASO DE LOS DOS MESSERSCHMITT Me-262  
SOBRE LOS CIELOS DE BARCELONA  
EN LA GUERRA CIVIL DE ESPAÑA

It was a dark and stormy night", so began the incredible description of strafing attacks by Condor Legion aircraft on New Year's Eve of 1939 in Barcelona, Spain, that lead to the indisputable conclusion that the Germans tested prototype Me-262S jets in the Spanish Civil war and that they were not only radar equipped but also had stealth.

In 1957, I was doing research on "The Effects of Continual Ethanol Ingestion on the Human System" in the Blue Fox Cantina in Tijuana, Baja California, Mexico. I was telling some extremely friendly (but somewhat mercenary) ladies who frequent that establishment of my interest in the Spanish Civil War when the disheveled gentleman sitting next to me at the bar introduced himself as Fernando L. Borracho Marinero(1), a Spanish Republican exile from Barcelona. He offered to share some his war-time experiences with me, but as he was indigent, he requested a \$50 retainer.

I was encourage to retain Mr. Marinero by the friendly ladies as a charitable gesture towards a refugee from Franco's repression, and after the financial arrangements were concluded he began his story.

"It was a dark and stormy night, that New Year's Eve of 1939. I didn't know it at the time, but the end of our beloved Republic was very near and the enemy's Air Force was very active in the skies over Barcelona. At the time, I was a tail-gunner in a Tu-4 bomber of 'La Gloriosa' (Author's note: the name applied by the Spanish Republicans to their Air Force) and I therefore had excellent knowledge of the Italian and German aircraft of Franco's Air Force. I had shot down 23 of them myself with the twin 20-mm cannons in my tail position.

"My cousin, Marie Macho L. Borracho Viejo(2) and I had left a New Year's Celebration at about 8:00 PM after just a few small drinks. The party was given by our families, the Borrachos and Marineros, at 'La Cantina de Rosa (Author's note: 'Rosa's Cantina') in Barrio Chino [Author's note: Chinese Neighborhood(3)] when we were suddenly attacked by these 'aviones' (Author's note: airplanes).

"They were unlike any 'aviones' that I had ever seen before. They resembled flying snakes with big stingers hanging under their wings that trailed black smoke (author's note: The underlining is mine; the description is obviously of the Me-262). They had no propellers and floated through the air (Author's note: See, obviously jets). They had two pronged tongues on their noses (Author's note: the radar). They flew in perfect formation, one just a little behind the other (Author's note: German precision). Their outline was extremely vague and blurry (Author's note: STEALTH). I could see the second 'avion' through the first and they seemed to be emitting little black dots, stars and 'x'es (Author's note: ECM).

"Their colors were light grey overall with the standard black Cross of St. Andrew on the white rudder and black circles with white crosses on the fuselage and both surfaces of the wings (Author's note: Standard Franco Air Force markings). Directly behind the fuselage circles were the black letters '262-1' and '262-2' respectively (Author's note: This is consistent with the numbering system employed by the Nationalists). Under the cockpit was a drawings of a black top-hat (Author's note: A Condor Legion marking)."

Fernando continued his story explaining that the 'flying snakes' made repeated attacks on him and his cousin causing them not to get home until sometime after 4:00 AM and that Nando's wife was so upset she attacked him with a frying pan, which was the reason the details of the attack by the 'flying snakes' were so indelibly engraved in his mind.

After negotiating another \$25 retainer fee, Mr. Marinero described to the author the markings carried by the 40 Tupelov Tu-4 bombers that the Soviet Union had loaned to the Spanish Republic and which were returned to the USSR in February of 1939. The entire upper surface of the fuselage was painted red. The upper surfaces of the wings and horizontal tail were yellow on the inboard 50% and purple on the outboard 50%. The vertical stabilizer and tail was equally divided: red top, yellow center, and purple bottom. In large black 'cyrillic-like' letters on the sides just aft of the upper gun turret were the letters 'BS-1' through 'BS-40'. The 'BS' designation was an integral part of the Republican Air Force numbering system and stood for 'Bomberdeo Sovietico' (Soviet Bomber). The underside of the aircraft were a pale 'sky' blue. Nando explained that these markings were applied so that the Republican fighter pilots wouldn't mistake the Tu-4s for the Condor Legion Heinkel He-177 Greif.

(A few notes about the author: This article was written by the Rev. Dr. Brown who received his honorary degree (Doctor of Divinity) from the Universal Life College of Modesto, California, in 1981 after extensive studies that took at least 1/2 hour out of his busy schedule. In his modesty, Rev. Dr. Brown complains that he never cared for Divinity, it is too sweet for him, and that his primary interest is in Ecology. He wanted to get a Doctor of gyn-Ecology, but the Universal Life College doesn't offer that course and he had already sent his \$20, so he became a Rev. Dr. of Divinity. During his studies of the Effects of Continual Ethanol Ingestion of the Human System, Rev. Dr. Brown contracted the disease of Alcoholism, which retarded his progress as a modeler as his hands were shaking too much to operate his air brush. Rev. Dr. Brown's disease has arrested the past 6 years, which explains his welcome re-entry into our field. Upon finishing this work on the Spanish Me-262, Rev. Dr. Brown went right to work on his next article "How to guarantee that Monogram will issue a super-detailed 1/48 scale model of the Pold-laskiej Wytworni Samolotow PWS-10, 1927 Polish parasol-winged fighter".)

Comments for readers unfamiliar with the more subtle distinctions of the Spanish language:

(1) "L"/"el" is Spanish for "the", "Borracho" translates as "drunk", and "Marianero" is a "sailor".

(2) Marie Macho is pronounced "marimacho" which is one of the Spanish ways of describing one who chooses the "gay" way of life. "Viejo" translates "old".

(3) The "Barrio Chino" is the "red light" district of Barcelona.

[Editor's note: This article was submitted by Bill Brown (SAFCH #526, 1719 Minnie St., Port Huron, MI 48060) who may, or may not, be related to the author of this stimulating article. All correspondence on this controversial subject should be directed to Bill and not to your editor.]

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"I have three questions for SAFO readers: (1) Can anyone direct me to a photo or drawings of a Jordanian F-104A in camouflage (USAF south-west-Asia scheme)? (2) I would also like to see a photo or drawing of a camouflaged Iraqi Mirage F1. (3) Does anyone know a source for decals of the Iraqi national insignia in 1/72 scale?"

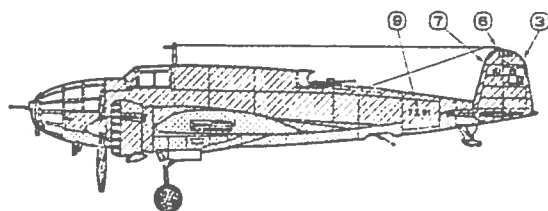
Gary Loveria (SAFCH #614), PO Box 79, RD #1, Kirkwood, NY 13795

(Editor's note: I am sure that many other readers are also interested in these schemes, so if you send anything to Gary, also send a copy to me for publication in the SAFO. The only Iraqi markings I know of are on Stoppel Decal #20 Lebanon/Mexico/Syria/Iraq. I doubt if these, or any of the other excellent Stoppel sheets, are available, but if you have a set you would like to get rid of please let Gary know.)

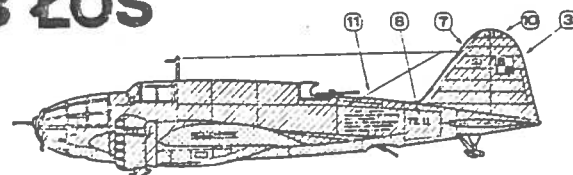
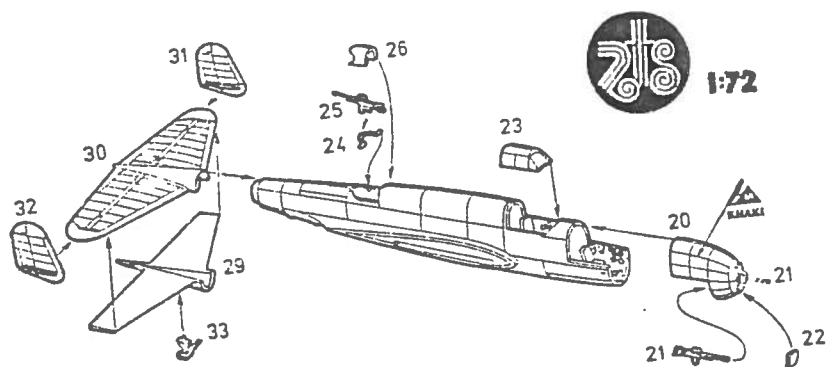


# PZL-37A/B "ŁOŚ"

PZL P-37A/B ŁOŚ 1/72 SCALE: It is here at last! The aircraft model every true small air force fanatic feared would never appear. It is here and it is superb. From ZTS-MIKRO in Poland comes a 1/72-scale kit of the PZL-37A/B ŁOŚ twin-engine WWII bomber. The kit is a modelers dream come true. It contains over 50 parts including alternate parts to build either the single- or twin-rudder versions, and high quality decals for four different aircraft. It features a well-detailed interior, a one-piece clear-plastic molding of the complex glass nose, various choices of detail parts such as landing-gear covers and even a choice of either retracted or extended position for the massive landing light located beneath the nose. The only thing a super detailer would want to add would be the ring sights on the three machine guns and the seat belts. Yes, it is that good!



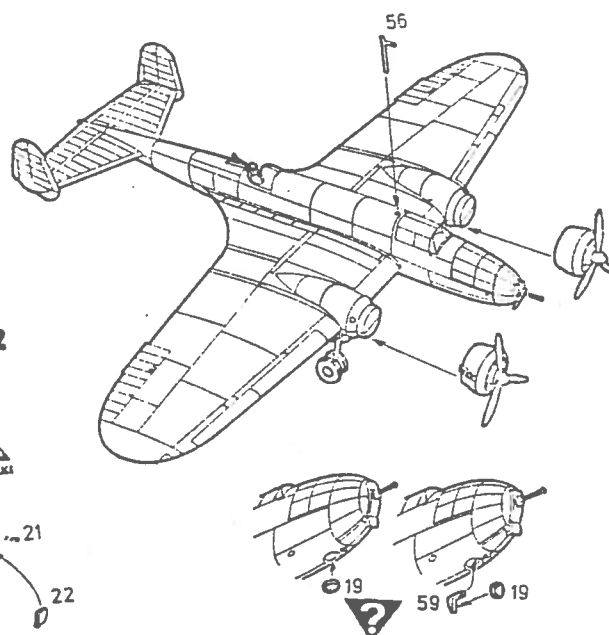
The instruction sheet is in the old Frog "exploded" style. Watch out for the little "?" symbols which indicate a choice of parts. Full interior and exterior painting directions are included. My own personal taste for the upper-surface khaki is Testor's WWI British RAF khaki, although ZTS-MIKRO gives a formula using Humbrol paints.



The markings provided on the well-printed decal sheet appear to have been taken from color drawings which appeared in Profile Publications #258: (1) a standard P-37B with the Xth Bomber Division on the eve of the war, (2) a standard P-37B in Rumanian markings, (3) a P-37Bbis in "presentation" markings for a flight to Belgrad in 1938, and (4) a single-rudder P-37A of the 1st Air Regiment in 1938. Another modeler's aid would be the Polish TBU #5 which contains fairly good drawings of the interior.

Write immediately to your Polish pen-pal. The kit will be very popular and, given the supply situation these days, it would be prudent to act now. No small air force collection can afford to be without this one.

George J. Stein (SAFCH #83), Western College, Miami University, Oxford, OH 45056



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"I have just returned from Europe with much information to sort out, but I did want to write to you about the possibility of your selling some books through the SAFO.

"Patrick Laureau, author of L'AVIATION REPUBLICAINE ESPAGNOLE, wrote two volumes in Spanish on the same subject titled LA AVIACION REPUBLICANA ESPANOLA. These latter volumes contain photos that did not appear in his original French volume, and since he has obtained new photos for upcoming works in English and French, most of these photos will not appear again.

"Luckily copies of both Spanish language volumes are still available. Patrick has been selling them at about \$20 apiece including postage, or \$35 for both volumes. His address is: Patrick P. Laureau, Casa de Velazquez, Habitación #40, Ciudad Universitaria, Madrid 3, ESPANA.

"In the event you decide not to sell the book through the SAFO, please put a note in the next issue advising readers that they can purchase these volumes directly from Patrick. The hundreds of rare photos alone are invaluable for modelers, and the Spanish text is easy to read even for relatively nonskilled linguists.

"When I get organized, I will write to you again with specific details about available and upcoming books,

kits, decals, etc. of interest to SAF buffs. I know of approximately a dozen forthcoming books on the Spanish Civil War that should be reviewed in the SAFO.

Tom Sarbaugh (SAFCH #497), 907 South Beverly Lane, Arlington Height, IL 60005

(Editor's note: I'll write to Patrick and see what can be worked out. In the meantime, readers who can not wait should order their books directly from Patrick.)

"Thanks for defending the 'Lebanese-like' markings on the Bu131 which appeared among my drawings of Hungarian Trainers (SAFO #26). The most available reference for the nonbeliever is page 184 of the Harlyford book 'Aircraft Camouflage and Markings'.

"I would appreciate any information the readers can provide on the finish and markings of the Thai Ki-21, Martin 139, and French MS406 and Potez 630 in Indochina in 1941." [Editor's note: I'll second that; this would make an excellent SAFO article. Any volunteers? Color side-view drawings of Thai Martins appeared in AIR INTERNATIONAL #22 and FLYING REVIEW August 1965.]

Paul Mears (SAFCH #270), "Homestead", Southampton Rd., Dibden, Nr. Southampton, Hants., S04 5TE ENGLAND

HANDBOOKS OF ARMED FORCES. A new series of invaluable reference books that will build up to a comprehensive library of the Armed Forces of the World, the Handbooks are useful as handy references for military buffs, war-gamers and authors. Each volume contains approximately 140 pages, 210 X 280 mm, with numerous maps and tables and hundreds of drawings. The military history and armed forces of the countries involved are carefully examined, including campaigns, geography, tables of organization and equipment, orders of battle, illustrations and technical details of equipment, descriptions of uniforms, etc. The entire period of recorded history is covered, with emphasis on the age of machine warfare.

Austrian Empire (162 pages) Vikings. Danish defence in 1940. Finnish battles against Russia 1939-44. Norwegian campaign of 1940. Gustavus Adolphus. Swedish defences of WWII and postwar build-up.

Balkans Part I (135 pages) Byzantine Empire. Campaigns of the Ottoman Turks in WWI. Campaigns of Alexander the Great. Invasion of Greece 1941. Albania.

Balkans Part II (132 pages) Bulgarian forces in WWII. Rumanian operations in Russia 1941-44. Invasion of Yugoslavia 1941. Croatia.

France Part I (141 pages) Celts of ancient Gaul. Middle Ages. Wars of the French kings. Napoleonic armies and navies. Complete description of naval, armored and air units in WWI.

France Part II (148 pages) Details of all French forces in WWII (incl. Vichy and Free French). Postwar developments (incl. Indochina and Algeria). Monaco.

The series will eventually contain around 30 volumes. Scheduled for publication in 1984 are: Germany Part I, Germany Part II, Poland-Switzerland, Iberia, The Low Countries.

OFH NACHRICHTEN SONDERHEFT Nr. 7: REGISTER FÜR GLEIT-FLUGZEUGE SEGELFLUGZEUGE ZIVIL UND MILITARFLUGZEUGE ÖSTERREICH 1923-1938, Ing. F. Haubner und W. Schroeder, 48 pages, 14 photos. Price OS 50 (approximately US \$2.60).

This book consists entirely of tables listing all aircraft that received registration numbers in Austria before WWII. This first two sections are devoted to gliders; the first to the A- series and the second to the OE- series. Photos: A-S-1 and OE-AMMER (Grunau Baby II). The next three sections cover the civil registrations A- and OE-. Photos: A-25 Udet U 12a, A-35 Albatross B II, A-40 Dietrich DPlIa, A-63 DH 60G (with enclosed cabin), A-90 BFW M 23b, A-99 Klemm L 20BI, A-131 Hopfner HS 10, OE-DEM Meindl A 7b, OE-DKK DH 87B. The final section lists all military aircraft by Dienstnummer including types ordered but not delivered. Among the aircraft listed are: 43 Fiat Cr 20bis, 8 Fiat A 120, 5 Caproni Ca 133, 3 Ju 52, 24 Udet U 12a, 3 Hopfner HM 13/34, 7 Avro 626, 11 Falke HVa, 9 FW 56, 45 Fiat Cr 32, 6 Fiat Cr 30, 8 Romeo Ro 37, 12 Henschel Hs 126 (on order), 6 FW 58, 12 Ju 86 (only 3 delivered), 12 Ju 87 (on order), 3 Hopfner HS 8/29, 12 DH 60G III, 4 Hopfner HS 9/35, 3 Lampich NL 22, 64 FW 44 (32 not delivered), 20 Caproni Ca 100, 12 Breda Ba 28, 3 Avro 626, 12 Gotha Go 145, 42 Heinkel He 112 (on order), and assorted one-of-a-kinds. Photos: OE-TBE '414' DH 60M.

Sonderheft Nr. 7 is a good place to go to identify aircraft in Austrian markings (How many of you can identify a Lampich NL 22?), but it is too bad that there are not more illustrations of military aircraft. Perhaps we can look forward to seeing these illustrated either in the regular issues of OFH NACHRICHTEN or in a future Sonderheft. This book as well as information on their quarterly magazine can be obtained from OFH, Kannegasse 1/15, A-1150 Wien/Vienna, AUSTRIA.

"Enclosed are copies of the most recent Handbooks published, FRANCE Part I and FRANCE Part II. Thanks for continuing to send SAFO even though it has been a long time since we sent you anything. In the meantime, we have corresponded with many SAFCH members and have received much information, constructive criticism and suggestions from them.

"As you can see, the Handbooks have also changed a good deal during the interval. We have spent most of the past year revising, enlarging and improving their format. All are now bound with the full cover of the French volumes enclosed. Few changes have been made in the aircraft sections of most titles but all now have sections describing the campaigns of World War I and II and selected earlier and later periods. Enclosed is a leaflet describing the currently available titles, the nations covered in each volume (note that SCANDINAVIA no longer describes the Baltic Republics and that THE AUSTRIAN EMPIRE AND POLAND is now THE AUSTRIAN EMPIRE as Poland has been deleted. Poland, the Baltic Republics, Switzerland and Liechtenstein will be included in the POLAND-SWITZERLAND volume due this year). Because of the widespread revisions carried out, we have fallen behind the original schedule of publication. Those we expect to publish in 1984 are listed on the leaflet.

"We have not raised our prices in 5 years of publication but during that time costs have risen over 100% and it has been necessary to raise the prices of the Handbooks to \$7.95 each (postage free in the U.S., \$0.50 surface postage overseas). European customers should direct their inquiries to The History Bookshop, 2 The Broadway, Friern Barnet Road, London, N11 3DU, England.

"One request - does anyone have Orders of Battle for the Italian air force units in North Africa during 1941 and 1942?"

Ron Tarnstrom (SAFCH #529), Route 1, Box 2, Lindsborg, KS 67456

"I would like to make some comments and corrections concerning the article "Polish Air Force in France" that appeared in SAFO #29. First, there was only one Polish unit in France: 'Groupe de chasse' 1/145 equipped with Caudron C.714 and divided into two 'escadrilles'. However, Polish airmen flew with many other 'Groupes de chasse', as well as with the 'Patrouilles de defense', 'Groupes de Bombardement' and 'Groupes de Reconnaissance'.

"The planes were described as painted "chocolate brown"; this is not strictly true. ('Chocolate' was used only on the Amiot 143, Farman 221, 222, and other night bombers.) The brown used on the fighters was actually a dark red-brown. The blue appropriate for French aircraft of this period was a light blue-grey and I prefer the Compucolor for this. The other colors were dark blue-grey (almost always present), green or khaki, but never 'stone'."

"Almost every Caudron carried its individual camouflage pattern, but the colors were always dark red-brown, dark blue-grey, and khaki. The aircraft illustrated, the serial 'I-217' was red and not black, and the Polish insignia appeared only as white squares and white outlines covering the French roundel. Low visibility French roundels of 30-cm diameter were carried on the upper surfaces of the wings. (See photo in Fanatique de l'Aviation #34 and following.)

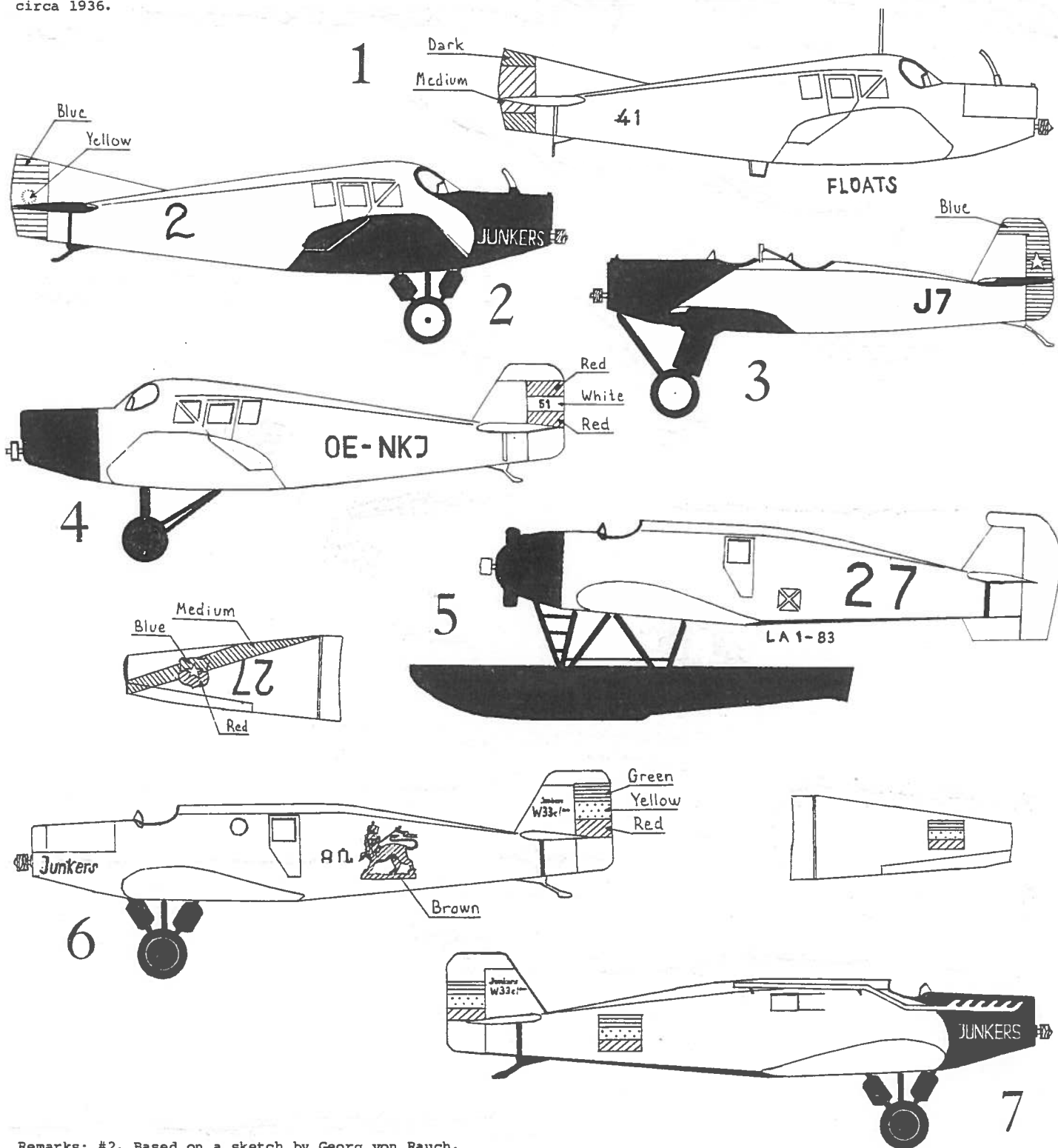
"For the MS-406, the modeler will have to make the 'Bronzavia' exhaust collectors, and finding the Heller kit of the Potez 63-11 will be very difficult because it has been deleted from the Heller catalogue for several of years."

Michel Ledet (SAFCH #602), 16 rue Rosa Luxembourg, 62230 Outreau, FRANCE

# THE WORLD OF JUNKERS

1. '41' Unidentified F.13W, probably sometime during the 1920s. Could it be a Spanish military aircraft? The rudder markings are not clear in the photograph.
2. '2' F-13 of the Argentine Air Force circa 1927.
3. 'J 7' The single Chilean Air Force A.20.
4. 'OE-NKJ'/'51' F.13 in Austrian military service circa 1936.

5. '27' The single Chilean military W.33b. I suppose the markings are those of the Navy. The aircraft was obtained in 1929.
6. An Ethiopian W.33c as delivered in 1929.
7. After a crash, aircraft #6 was repaired, repainted, and christened "Dessie" in 1932.

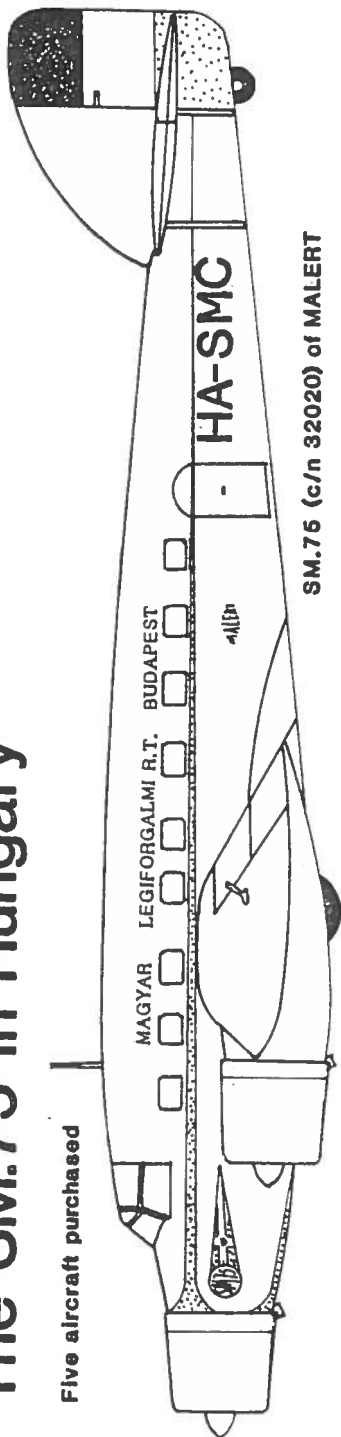


Remarks: #2. Based on a sketch by Georg von Rauch.  
 #4. Based on a drawing in OFH NACHRICHTEN.  
 #6 & #7. Thanks to Ole Nordbo for his help with the details on these.

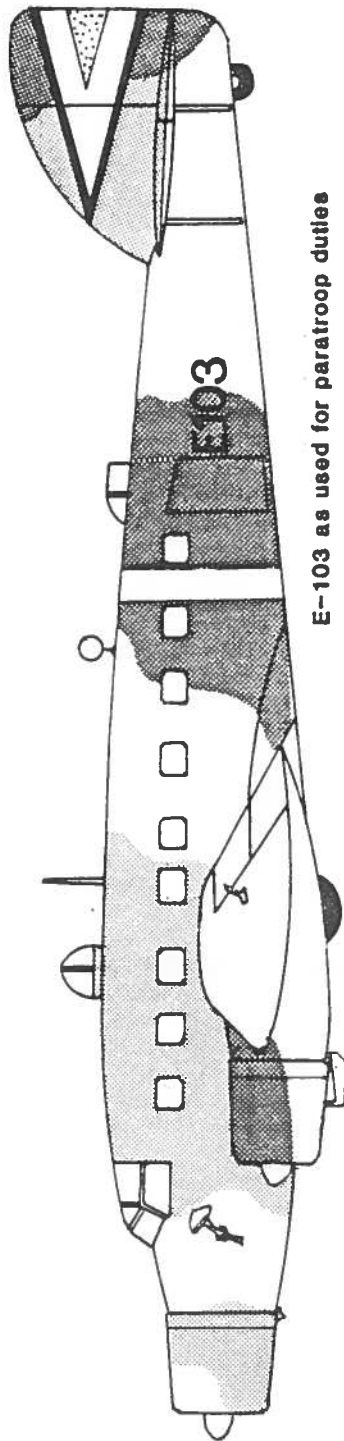
Lennart Andersson (SAFCH #68), Liljeg 9A, S-752 24 Uppsala, SWEDEN

# The SM.75 in Hungary

Five aircraft purchased



SM.75 (c/n 32020) of MALERT

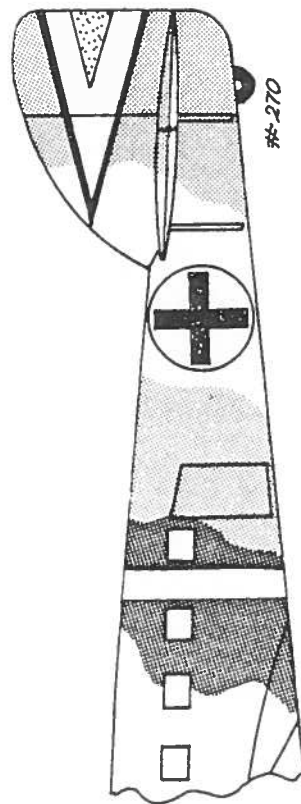


E-103 as used for paratroop duties

other aircraft were HA-SMA(32012)E-101  
 HA-SMB(32015)E-102  
 HA-SMD(32025)E-104  
 HA-SME(32030)E-105



"Gamba" emblem of the 1. Eje.azall.szd.  
 (1st Paratroop Squadron)



E-105 modified for ambulance duties